

Fig. 1.

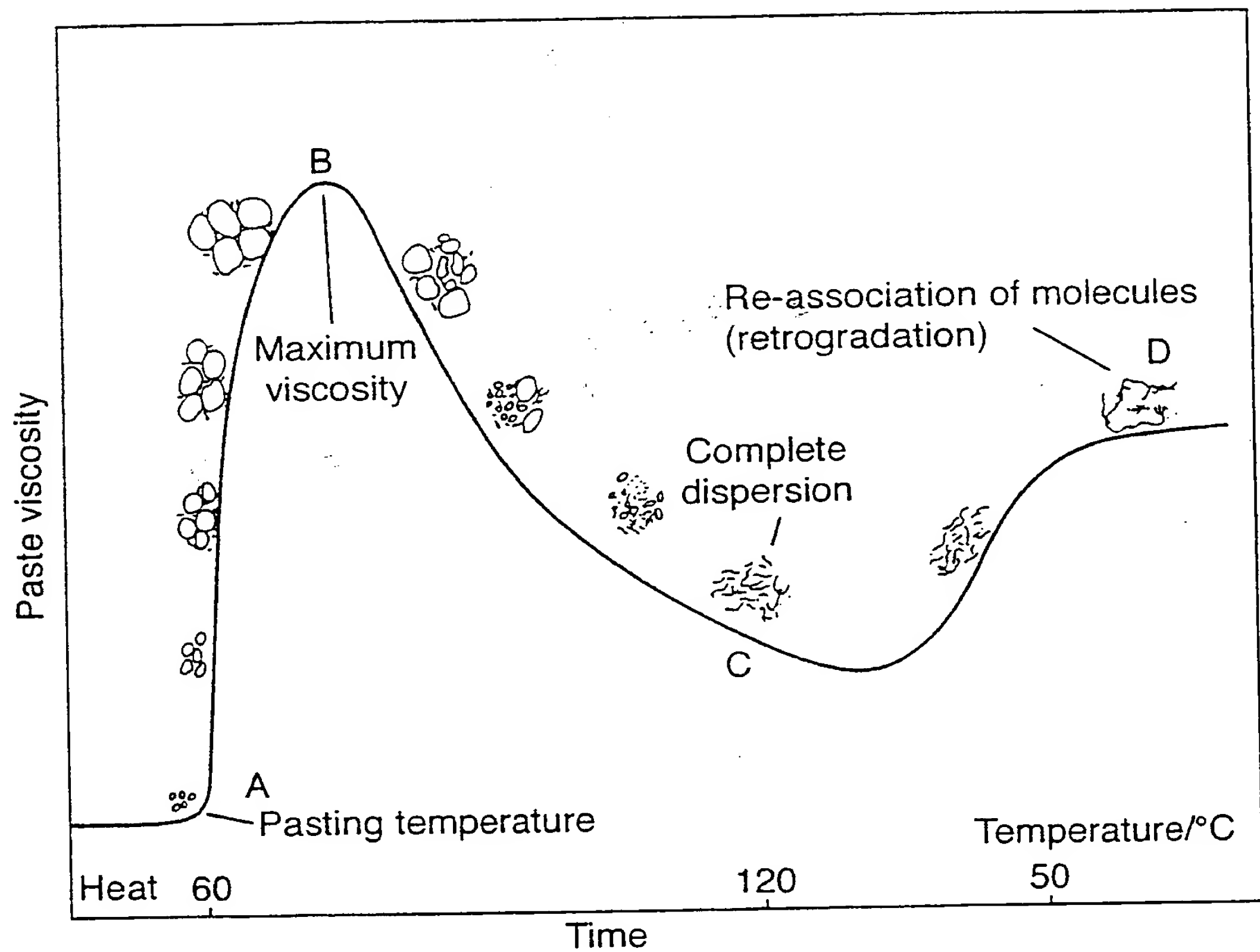


Fig. 2(i)

44														0sbeII-1ALL SEQ ID No : 11
307	S R A	-	-	-	A S P G K V L	-	-	-	V P D G E S D	-	-	-	-	Wheat SBEII-2 SEQ ID No:12
56	S C A	-	-	-	G A P G K V L	-	-	-	V P G G G S D	-	-	-	-	ZMSBE2a SEQ ID No : 13
247	A	-	-	-		-	-	-		-	-	-	-	ZMSBE2b SEQ ID No : 14
2		-	-	-		-	-	-		-	-	-	-	Barley SBEIIa SEQ ID No : 15
2		-	-	-		-	-	-		-	-	-	-	Barley SBEIIb SEQ ID No : 16
323		-	-	-		-	-	-		-	-	-	-	RIC8E3 SEQ ID No : 17
71	V E A	E R G G C R G I R S G C G A G E M A A P A S A V P G S A A G L R A G A V R F P V P A G A R S W R A A A E L P T S R												RICESBE-1/97 SEQ ID No : 18
415		-	-	-	-	-	-	-	-	-	-	-	-	PSSBEI GEN SEQ ID No : 19
367	T M A	P L E E	-	-	-	-	-	-	-	-	-	-	-	STSBE SEQ ID No : 20
220	T M A	T A E D	-	-	-	-	-	-	-	-	-	-	-	TASBEI SEQ ID No : 21
1	S P P	T L T S	-	-	P P P S A V P S T T M	-	L C L S S S L L P R P S A A A D R P	-	-	-	-	-	-	TASBEI1D2 SEQ ID No : 22
227	T M A	T A K G	-	-	-	-	-	-	-	-	-	-	-	ZMSBEI SEQ ID No : 23
212	T M V	T V V E	-	-	-	-	-	-	-	-	-	-	-	RIC8E1 SEQ ID No : 24
208	T M P	S V E E	-	-	-	-	-	-	-	-	-	-	-	PSSBEIIGN SEQ ID No : 25
44														0sbeII-1ALL
373	A	-	-	-	Q P E E L Q I	-	-	-	-	-	-	-	-	Wheat SBEII-2
122	A E P	V V D T Q P E E L Q I	-	-	-	-	-	-	-	-	-	-	-	ZMSBE2a
250		-	-	-	-	-	-	-	-	-	-	-	-	ZMSBE2b
2		-	-	-	-	-	-	-	-	-	-	-	-	Barley SBEIIa
2		-	-	-	-	-	-	-	-	-	-	-	-	Barley SBEIIb
323		-	-	-	-	-	-	-	-	-	-	-	-	RIC8CE3
251	S L S	G R R F P G A V R V G S G G R V A V R A A G A S G E V M I P E G E S D G H P V S A G S D D L Q L P A L D D E L												RICESBE-1/97
463	Q L E N P D I T S E D A Q N	-	-	-	-	-	-	-	-	-	-	-	-	PSSBEI GEN
388		-	-	-	-	-	-	-	-	-	-	-	-	STSBE
241		-	-	-	-	-	-	-	-	-	-	-	-	TASBEI
109		-	-	-	L P G I A G G G G K R L S V V P S	-	-	-	-	-	-	-	-	TASBEI1D2
248		-	-	-	-	-	-	-	-	-	-	-	-	ZMSBEI
233		-	-	-	-	-	-	-	-	-	-	-	-	RIC8E1
229		-	-	-	-	-	-	-	-	-	-	-	-	PSSBEIIGN
44														0sbeII-1ALL
463	S S E P T Q	-	-	-	G I V E T I T D G V T K G V K E L	-	-	-	-	-	-	-	-	Wheat SBEII-2
260	R P E L S E V I G V G T G T K I D G A G	-	-	-	I K A K A P L V E E K P R V I P P P G D G Q R	-	-	-	-	-	-	-	-	ZMSBE2a
346	E V P D I S E E T T C G A G V A D A Q A L N R V	-	-	-	-	-	-	-	-	-	-	-	-	ZMSBE2b
2		-	-	-	-	-	-	-	-	-	-	-	-	Barley SBEIIa
2		-	-	-	-	-	-	-	-	-	-	-	-	Barley SBEIIb
431	S T E V G A E V E I E S S G A S O V E G V K R V V E E L	-	-	-	A A E Q K P R V V P P T G D G Q K	-	-	-	-	-	-	-	-	RIC8CE3
431	S T E V G A E V E I E S S G A S O V E G V K R V V E E L	-	-	-	A A E Q K P R V V P P T G D G Q K	-	-	-	-	-	-	-	-	RICESBE-1/97
601	S S S L V D V	-	-	-	N T O T Q A K K T S V H S D K K V K V D K P K I I P P P G T G Q K	-	-	-	-	-	-	-	-	PSSBEI GEN
388		-	-	-	-	-	-	-	-	-	-	-	-	STSBE
241		-	-	-	-	-	-	-	-	-	-	-	-	TASBEI
220		-	-	-	V S V T A R G N K I A A T T G Y G S O H L P	-	-	-	-	-	-	-	-	TASBEI1D2
248		-	-	-	-	-	-	-	-	-	-	-	-	ZMSBEI
233		-	-	-	-	-	-	-	-	-	-	-	-	RIC8E1
229		-	-	-	-	-	-	-	-	-	-	-	-	PSSBEIIGN

**Fig. 2(ii)**

44	0sbeII-1ALL	DYRYS	EYRR	IRAA	ID	Q	HEGGL	E	FSR	GY	E	K	L	G	F	T	R	S	A	E	G	I	T	Y	R	E	W	A	P	G	A	H	S	A	A	L	V	G	D	F	N	N																				
528	Wheat SBEII-2	DYRYS	EYXR	LRAA	ID	Q	HEGGL	D	A	FSR	GY	E	K	L	G	F	T	R	S	A	E	G	I	T	Y	R	E	W	A	P	G	A	H	S	A	A	L	V	G	D	F	N	N																			
440	ZMSBE2a	EYRYS	LYRR	IRSD	ID	E	HEGGL	E	A	FSR	SY	E	K	F	G	F	N	A	S	A	E	G	I	T	Y	R	E	W	A	P	G	A	F	S	A	A	L	V	G	D	F	N	N																			
496	ZMSBE2b																																																													
2	Barley SBEIIa																																																													
2	Barley SBEIIb																																																													
611	RICBCE3	EYRYS	LYRR	LRSO	ID	Q	Y	E	G	G	L	E	T	F	S	R	G	Y	E	K	F	G	F	N	H	S	A	E	G	V	T	Y	R	E	W	A	P	G	A	H	S	A	A	L	V	G	D	F	N	N												
611	RICESBE-1/97	EYRYS	LYRR	LRSO	ID	Q	Y	E	G	G	L	E	T	F	S	R	G	Y	E	K	F	G	F	N	H	S	A	E	G	V	T	Y	R	E	W	A	P	G	A	H	S	A	A	L	V	G	D	F	N	N												
766	PSSBEIEN	D	F	R	Y	G	Q	Y	E	G	G	L	D	A	F	S	R	G	Y	E	K	F	G	F	T	R	S	A	T	G	I	T	Y	R	E	W	A	P	G	A	K	S	A	A	L	V	G	D	F	N	N											
457	STSBE	R	H	R	M	K	R	Y	V	D	Q	K	M	L	I	E	K	Y	E	G	P	L	E	E	F	A	Q	G	Y	L	K	F	G	F	N	E	D	G	C	I	V	Y	R	E	W	A	P	A	Q	E	D	E	V	I	G	D	F	N	G			
384	TASBE1	S	V	R	M	K	X	Y	L	D	Q	K	H	S	I	E	K	H	E	G	G	L	E	E	F	S	K	G	Y	L	K	F	G	I	N	T	E	N	D	A	T	V	Y	R	E	W	A	P	A	A	M	D	A	Q	L	I	G	D	F	N	N	
331	TASBE1D2	D	V	T	R	N	R	V	I	E	Q	K	H	L	I	E	K	H	E	G	S	L	E	E	F	S	K	G	Y	L	K	F	G	I	N	T	E	H	G	A	S	V	Y	R	E	W	A	P	A	A	E	A	Q	L	V	G	D	F	N	N		
311	ZMSBE1	R	Y	R	M	K	R	F	L	E	Q	K	G	S	I	E	N	E	G	S	L	E	S	F	S	K	G	Y	L	K	F	G	I	N	T	H	E	D	G	T	V	Y	R	E	W	A	P	A	A	Q	E	A	E	L	I	G	D	F	N	D		
296	RICBE1	N	Y	R	I	K	R	V	L	D	Q	K	C	L	I	E	K	H	E	G	G	L	E	E	F	S	K	G	Y	L	K	F	G	I	N	T	V	D	G	A	T	I	Y	R	E	W	A	P	A	A	Q	E	A	Q	L	I	G	E	F	N	N	
292	PSSBEIIGN	X	Y	R	L	K	R	V	L	H	Q	K	X	L	I	E	E	Y	E	G	G	L	Q	E	F	A	K	G	Y	L	K	F	G	F	N	E	E	D	G	I	S	Y	R	E	W	A	P	A	A	Q	E	A	Q	L	I	G	D	F	N	G		
44	0sbeII-1ALL	WN	P	N	A	D	T	M	T	R	D	D	Y	G	V	W	E	M	F	L	P	N	N	A	D	G	S	P	P	I	P	H	G	S	R	V	K	K	V	R	M	D	T	P	S	G	I	-	K	D	S	I	P	A	W	I	K	Y	S	V	Q	
808	Wheat SBEII-2	WN	P	N	A	D	T	M	T	R	D	D	Y	G	V	W	E	I	F	L	P	N	N	A	D	G	S	P	A	I	P	H	G	S	R	V	K	K	I	R	M	D	T	P	S	G	V	-	K	D	S	I	S	A	W	I	K	F	S	V	Q	
620	ZMSBE2a	WN	P	N	A	D	T	M	T	R	D	D	Y	G	V	W	E	I	F	L	P	N	N	A	D	G	S	P	A	I	P	H	G	S	R	V	K	K	I	R	M	D	T	P	S	G	V	-	K	D	S	I	P	A	W	I	K	F	S	V	Q	
676	ZMSBE2b	W	D	P	N	A	D	R	M	S	K	N	E	F	G	V	W	E	I	F	L	P	N	N	A	D	G	T	S	P	I	P	H	G	S	R	V	K	K	V	R	M	D	T	P	S	G	I	-	K	D	S	I	P	A	W	I	K	Y	S	V	Q
2	Barley SBEIIa																																																													
2	Barley SBEIIb																																																													
791	RICBCE3	WN	P	N	A	D	R	M	S	K	N	E	F	G	V	W	E	I	F	L	P	N	N	A	D	G	S	P	A	I	P	H	G	S	R	V	K	K	I	R	M	D	T	P	S	G	V	-	K	D	S	I	S	A	W	I	K	F	S	V	Q	
791	RICESBE-1/97	WN	P	N	A	D	R	M	S	K	N	E	F	G	V	W	E	I	F	L	P	N	N	A	D	G	S	P	A	I	P	H	G	S	R	V	K	K	I	R	M	E	T	P	S	G	I	-	K	D	S	I	P	A	W	I	K	Y	S	V	Q	
346	PSSBEIEN	WN	P	N	A	D	V	M	T	K	D	A	F	G	V	W	E	I	F	L	P	N	N	A	D	G	S	P	P	I	P	H	G	S	R	V	K	K	I	H	M	D	T	P	S	G	I	-	K	D	S	I	P	A	W	I	K	F	S	V	Q	
637	STSBE	WN	G	S	N	H	M	M	E	K	D	Q	F	G	V	W	S	I	R	I	P	D	-	V	D	S	K	P	V	I	P	H	N	S	R	V	K	F	R	F	K	H	G	N	G	V	W	V	D	R	I	P	A	W	I	K	Y	A	T	A		
484	TASBE1	WN	G	S	G	H	R	M	T	K	D	N	Y	G	V	W	S	I	R	I	S	H	-	V	N	G	K	P	A	I	P	H	N	S	K	V	K	F	R	F	H	R	G	D	G	L	W	V	D	R	Y	P	A	W	I	Y	A	T	F			
511	TASBE1D2	WN	G	S	G	H	K	M	A	K	D	N	F	G	V	W	S	I	R	I	S	H	-	V	N	G	K	P	A	I	P	H	N	S	K	V	K	F	R	F	H	R	G	-	H	G	V	W	V	E	Q	I	P	A	W	I	Y	A	T	V		
491	ZMSBE1	WN	G	A	N	H	K	M	E	K	D	K	F	G	V	W	S	I	K	I	O	H	-	V	X	G	K	P	A	I	P	H	N	S	K	V	K	F	R	F	L	H	G	G	-	V	W	V	D	R	I	P	A	L	I	Y	A	T	V			
476	RICBE1	WN	G	A	K	H	K	M	E	K	D	K	F	G	I	W	S	I	K	I	S	H	-	V	N	G	K	P	A	I	P	H	N	S	K	V	K	F	R	F	R	H	G	G	G	A	W	V	D	R	I	P	A	W	I	Y	A	T	F			
472	PSSBEIIGN	WN	G	S	N	L	H	M	E	K	D	Q	F	G	V	W	S	I	Q	I	P	D	-	A	D	G	N	P	A	I	P	H	N	S	R	V	K	F	R	F	K	H	S	D	G	V	W	V	D	R	I	P	A	W	I	K	Y	A	T	V		
185	0sbeII-1ALL	T	P	G	O	I	-	-	P	Y	N	G	I	Y	Y	D	P	P	E	E	E	E	K	Y	V	F	K	H	P	Q	P	K	R	P	K	S	L	R	I	Y	E	T	H	V	G	M	S	S	T	E	P	K	I	N	T	Y	A	N	F	R	D	E
985	Wheat SBEII-2	A	P	G	E	I	-	-	P	F	N	G	I	Y	Y	D	P	P	E	E	E	E	K	Y	V	F	Q	H	P	Q	P	K	R	P	E	S	L	R	I	Y	E	T	H	V	G	M	S	S	T	E	P	K	I	N	T	Y	A	N	F	R	D	E
797	ZMSBE2a	A	P	G	E	I	-	-	P	Y	N	G	I	Y	Y	D	P	P	E	E	E	E	K	Y	V	F	K	H	P	Q	P	K	R	P	K	S	L	R	I	Y	E	S	H	V	G	M	S	S	P	E	P	K	I	N	T	Y	A	N	F	R	D	E
853	ZMSBE2b	A	P	G	E	I	-	-	P	Y	D	G	I	Y	Y	D	P	P	E	E	E	V	K	Y	V	F	R	H	A	Q	P	K	R	P	K	S	L	R	I	Y	E	T	H	V	G	M	S	S	P	E	P	K	I	N	T	Y	V	N	F	R	D	E
149	Barley SBEIIa	A																																																												
149	Barley SBEIIb	A																																																												
968	RICBCE3	A	A	G	E	I	-	-	P	Y	N	G	I	Y	Y	D	P	P	E	E	E	E	K	Y	I	F	K	H	P	Q	P	K	R	P	K	S	L	R	I	Y	E	T	H	V	G	M	S	S	T	E	P	K	I	N	T	Y	A	N	F	R	D	E
968	RICESBE-1/97	A	A	G	E	I	-	-	P	Y	N	G	I	Y	Y	D	P	P	E	E	E	E	K	Y	I	F	K	H	P	Q	P	K	R	P	K	S	L	R	I	Y	E	T	H	V	G	M	S	S	T	E	P	K	I	N	T	Y	A	N	F	R	D	E
1123	PSSBEIEN	A	P	G	E	I	-	-	P	Y	N	G	I	Y	Y	D	P	P	E	E	E	E	K	Y	V	F	K	I	P	Q	P	K	R	P	Q	S	I	R	I	Y	E	S	H	V	G	M	S	S	P	E	P	K	I	N	T	Y	A	N	F	R	D	E
814	STSBE	D	A	T	K	F	A	A	P	Y	D	G	V	W	D	P	P	S	E	R	Y	H	F	K	Y	P	R	P	P	K	P	R	P	P	R	A	P	R	I	Y	E	A	H	V	G	M	S	S	S	E	P	R	V	N	S	Y	R	E	F	A	D	D
661	TASBE1	D	A	S	K	F	G	A	P	Y	D	G	V	W	D	P	P	S	G	E	R	Y	V	F	K	H	P	R	P	P	R	K	P	O	A	P	R	I	Y	E	A	H	V	G	M	S	S	G	E	K	P	E	V	S	T	Y	R	E	F	A	D	N
685	TASBE1D2	T	A	S	E	S	G	A	P	Y	D	G	L	H	W	D	P																																													

Fig.2(iii).

3359	VLPRIK	RLGYNA	VQIMAI	QEHSS	YVGG	SFGY	HVTN	-	FFAP	SSRR	FGSP	EDLK	SKSL	IDRA	HEL	LGL	OsbeII-1ALL	
11159	VLPRIK	RLGYNA	VQIMAI	QEHSS	YVGG	SFGY	HVTN	-	FFAP	SSRR	FGSP	EDLK	SKSL	IDRA	HEL	LGL	Wheat SBEII-2	
971	VLPRIK	RLGYNA	VQIMAI	QEHSS	YVGG	SFGY	HVTN	-	FFAP	SSRR	FGSP	EDLK	SKSL	IDRA	HEL	LGL	ZMSBE2a	
1027	VLPRIK	RLGYNA	VQIMAI	QEHSS	YVGG	SFGY	HVTN	-	FFAP	SSRR	FGSP	EDLK	SKSL	IDRA	HEL	LGL	ZMSBE2b	
149																	Barley SBEIIa	
149																	Barley SBEIIb	
11142	VLPRIK	KLGYNA	VQIMAI	QEHSA	YVGG	SFGY	HVTN	-	FFAP	SSRR	FGSP	EDLK	SKSL	IDKA	HEL	LGL	RICBCE3	
11142	VLPRIK	KLGYNA	VQIMAI	QEHSA	YVGG	SFGY	HVTN	-	FFAP	SSRR	FGSP	EDLK	SKSL	IDKA	HEL	LGL	RICESBE-1/97	
1297	VLPRIK	KLGYNA	VQIMAI	QEHSA	YVGG	SFGY	HVTN	-	FFAP	SSRR	FGSP	EDLK	SKSL	IDKA	HEL	LGL	PSSSBEIGEN	
994	VLPRIK	KLGYNA	VQIMAI	QEHSA	YVGG	SFGY	HVTN	-	FFAP	SSRR	FGSP	EDLK	SKSL	IDKA	HEL	LGL	STSBE	
841	VLPRIK	KLGYNA	VQIMAI	QEHSA	YVGG	SFGY	HVTN	-	FFAP	SSRR	FGSP	EDLK	SKSL	IDKA	HEL	LGL	TASBEI	
865	VLPRIK	KLGYNA	VQIMAI	QEHSA	YVGG	SFGY	HVTN	-	FFAP	SSRR	FGSP	EDLK	SKSL	IDKA	HEL	LGL	TASBEID2	
845	VLPRIK	KLGYNA	VQIMAI	QEHSA	YVGG	SFGY	HVTN	-	FFAP	SSRR	FGSP	EDLK	SKSL	IDKA	HEL	LGL	ZMSBEI	
833	VLPRIK	KLGYNA	VQIMAI	QEHSA	YVGG	SFGY	HVTN	-	FFAP	SSRR	FGSP	EDLK	SKSL	IDKA	HEL	LGL	RICBEI	
829	VLPRIK	KLGYNA	VQIMAI	QEHSA	YVGG	SFGY	HVTN	-	FFAP	SSRR	FGSP	EDLK	SKSL	IDKA	HEL	LGL	PSSSBEIIGN	
536	VLMDDV	VHSHAS	SNNT	LDGL	NGFD	-	-	-	GTDT	HYFH	GGSG	RGH	HWMD	SRVF	NYGN	KEVIR	OsbeII-1ALL	
1336	VLMDDV	VHSHAS	SNNT	LDGL	NGFD	-	-	-	GTDT	HYFH	GGSG	RGH	HWMD	SRVF	NYGN	KEVIR	Wheat SBEII-2	
1148	VLMDDV	VHSHAS	SNNT	LDGL	NGFD	-	-	-	GTDT	HYFH	GGSG	RGH	HWMD	SRVF	NYGN	KEVIR	ZMSBE2a	
1204	VLMDDV	VHSHAS	SNNT	LDGL	NGFD	-	-	-	GTDT	HYFH	GGSG	RGH	HWMD	SRVF	NYGN	KEVIR	ZMSBE2b	
149																	Barley SBEIIa	
149																	Barley SBEIIb	
1319	VLMDDV	VHSHAS	SNNT	LDGL	NGFD	-	-	-	GTDT	HYFH	GGSG	RGH	HWMD	SRVF	NYGN	KEVIR	RICBCE3	
1319	VLMDDV	VHSHAS	SNNT	LDGL	NGFD	-	-	-	GTDT	HYFH	GGSG	RGH	HWMD	SRVF	NYGN	KEVIR	RICESBE-1/97	
1474	VLMDDV	VHSHAS	SNNT	LDGL	NGFD	-	-	-	GTDT	HYFH	GGSG	RGH	HWMD	SRVF	NYGN	KEVIR	PSSSBEIGEN	
1171	VLMDDV	VHSHAS	SNNT	LDGL	NGFD	-	-	-	GTDT	HYFH	GGSG	RGH	HWMD	SRVF	NYGN	KEVIR	STSBE	
1018	VLMDDV	VHSHAS	SNNT	LDGL	NGFD	-	-	-	GTDT	HYFH	GGSG	RGH	HWMD	SRVF	NYGN	KEVIR	TASBEI	
1042	VLMDDV	VHSHAS	SNNT	LDGL	NGFD	-	-	-	GTDT	HYFH	GGSG	RGH	HWMD	SRVF	NYGN	KEVIR	TASBEID2	
1022	VLMDDV	VHSHAS	SNNT	LDGL	NGFD	-	-	-	GTDT	HYFH	GGSG	RGH	HWMD	SRVF	NYGN	KEVIR	ZMSBEI	
1010	VLMDDV	VHSHAS	SNNT	LDGL	NGFD	-	-	-	GTDT	HYFH	GGSG	RGH	HWMD	SRVF	NYGN	KEVIR	RICBEI	
1009	VLMDDV	VHSHAS	SNNT	LDGL	NGFD	-	-	-	GTDT	HYFH	GGSG	RGH	HWMD	SRVF	NYGN	KEVIR	PSSSBEIIGN	
707	LSNARW	WLEEEY	KFDG	FRFD	GGAT	TSMM	YTHH	GLQV	TF	TG	SY	HE	YFG	FATD	VD	AV	YV	LSNARW
1507	LSNARW	WLEEEY	KFDG	FRFD	GGAT	TSMM	YTHH	GLQV	TF	TG	SY	HE	YFG	FATD	VD	AV	YV	LSNARW
1319	LSNARW	WLEEEY	KFDG	FRFD	GGAT	TSMM	YTHH	GLQV	TF	TG	SY	HE	YFG	FATD	VD	AV	YV	LSNARW
1375	LSNARW	WLEEEY	KFDG	FRFD	GGAT	TSMM	YTHH	GLQV	TF	TG	SY	HE	YFG	FATD	VD	AV	YV	LSNARW
149																	Barley SBEIIa	
149																	Barley SBEIIb	
1490	LSNARW	WLEEEY	KFDG	FRFD	GGAT	TSMM	YTHH	GLQV	TF	TG	SY	HE	YFG	FATD	VD	AV	YV	LSNARW
1490	LSNARW	WLEEEY	KFDG	FRFD	GGAT	TSMM	YTHH	GLQV	TF	TG	SY	HE	YFG	FATD	VD	AV	YV	LSNARW
1645	LSNARW	WLEEEY	KFDG	FRFD	GGAT	TSMM	YTHH	GLQV	TF	TG	SY	HE	YFG	FATD	VD	AV	YV	LSNARW
1351	LSNARW	WLEEEY	KFDG	FRFD	GGAT	TSMM	YTHH	GLQV	TF	TG	SY	HE	YFG	FATD	VD	AV	YV	LSNARW
1198	LSNARW	WLEEEY	KFDG	FRFD	GGAT	TSMM	YTHH	GLQV	TF	TG	SY	HE	YFG	FATD	VD	AV	YV	LSNARW
1222	LSNARW	WLEEEY	KFDG	FRFD	GGAT	TSMM	YTHH	GLQV	TF	TG	SY	HE	YFG	FATD	VD	AV	YV	LSNARW
1202	LSNARW	WLEEEY	KFDG	FRFD	GGAT	TSMM	YTHH	GLQV	TF	TG	SY	HE	YFG	FATD	VD	AV	YV	LSNARW
1190	LSNARW	WLEEEY	KFDG	FRFD	GGAT	TSMM	YTHH	GLQV	TF	TG	SY	HE	YFG	FATD	VD	AV	YV	LSNARW
1186	LSNARW	WLEEEY	KFDG	FRFD	GGAT	TSMM	YTHH	GLQV	TF	TG	SY	HE	YFG	FATD	VD	AV	YV	LSNARW



Fig.2(iv)

1887	L I H G F Y P E A V	I I G E D V S G M P T F A	L P V Q V G G V G F D Y R L H M A V A	D K W I E L L K	- G N D E A W E M G	OsbeII-1ALL
1837	L I H G L Y P E A V	S I G E D V S G M P T F C	I P V P D G G V G L D Y R L H M A V A	D K W I E L L K	- Q S D E S W X M G	Wheat SBEII-2
1499	L I H G L Y P E A V	S I G E D V S G M P T F C	I P V Q D G G V G F D Y R L H M A V A	D K W I E L L K	- Q S D E Y W E M G	ZMSBE2a
1555	L I H G L Y P E A V	I I G E D V S G M P T F A	L P V H D G G V G F D Y R L H M A V A	D K W I D L L K	- Q S D E T W K M G	ZMSBE2b
149						Barley SBEIIa
149						Barley SBEIIb
1670	L I H G L Y P E A I	I I G E D V S G M P T F A	L P V Q D G G V G F D Y R L H M A V A	P D K W I E L L K	- Q S D E S W K M G	RICBCE3
1670	L I H G L Y P E A I	I I G E D V S G M P T F A	L P V Q D G G V G F D Y R L H M A V A	P D K W I E L L K	- Q S D E S W K M G	RICESBE-1/97
1825	L I H G L Y P E A V	S I G E D V S G M P T F C	L P T Q D G G I G F M Y R L H M A V A	D K W I E L L K	- K Q D E D W R M G	PSSBEIIGN
1531	L I H K I F P D A T	V I A E D V S G M P P G L	G R P V S E G G I G F D Y R L H M A V A	P D K W I D Y L L K	- K N D E D W S M K	STSBE
1378	L M H K L L P E A T	V V A E D V S G M P V L C	C R S V D E G G V G F D Y R L H M A V A	P D K W I D Y L L K	- K N D D L E W S M S	TASBEI
1402	L M H K L L P E A T	V V A E D V S G M P V L C	C R S V D E G G V G F D Y R L H M A V A	P D K W I D Y L L K	- K N G D Q Q W S M S	TASBEID2
1382	L M H K L L P E A T	V V A E D V S G M P V L C	C R P V D E G G V G F D Y R L H M A V A	P D K W I D Y L L K	- K N G D D S E W S M G	ZMSBEI
1370	L M H K L L P E A T	V V A E D V S G M P V L C	C R P V D E G G V G F D Y R L H M A V A	P D K W I D Y L L K	- K N K E D R K W S M S	RICBEI
1366	L V H D I L P D A T	D I A E D V S G M P G L	G R P V S E V G T G F D Y R L H M A V A	P D K W I D Y L L K	- K N K D S E W S M K	PSSBEIIGN
1064	N I V - H T L T N R R W	P E K C V T Y A E S H D Q	A L V G D K T I A F W L M D K D M Y	D F M A L N G P	S T P S I D R G I	OsbeII-1ALL
1864	D I V - H T L T N R R W	L E K C V T Y A E S H D Q	A L V G D K T I A F W L M D K D M Y	D F M A L D R P	S T P R I D R G I	Wheat SBEII-2
1676	D I V - H T L T N R R W	L E K C V T Y C E S H D Q	A L V G D K T I A F W L M D K D M Y	D F M A L D R P	S T P R I D R G I	ZMSBE2a
1732	D I V - H T L T N R R W	L E K C V T Y A E S H D Q	A L V G D K T I A F W L M D K D M Y	D F M A L D R P	S T P T I D R G I	ZMSBE2b
149						Barley SBEIIa
149						Barley SBEIIb
1847	D I V - H T L T N R R W	S E K C V T Y A E S H D Q	A L V G D K T I A F W L M D K D M Y	D F M A L D R P	A T P S I D R G I	RICBCE3
1847	D I V - H T L T N R R W	S E K C V T Y A E S H D Q	A L V G D K T I A F W L M D K D M Y	D F M A L D R P	A T P S I D R G I	RICESBE-1/97
2002	D I V - H T L T N R R W	L E K C V T Y A E S H D Q	A L V G D K T I A F W L M D K D M Y	D F M A L D R P	S T P L I D R G I	PSSBEIIGN
1711	E - V T S S L T N R R Y	T E K C I A Y A E S H D Q	S I V G D K T I A F L M D K D M Y	S G M S C L T D A S P V V	D R G I	STSBE
1558	G - I A H T L T N R R Y	T E K C I A Y A E S H D Q	S I V G D K T I A F L M D K D M Y	S G M S D L Q P A S P T I	D R G I	TASBEI
1582	S V I S Q T L T N R R Y	T E K F I A Y A E R O H S	S I G S K T M A F L M D K D M Y	S G M S A M D P D S P T I	D R G I	TASBEID2
1562	E - I A H T L T N R R Y	T E K C I A Y A E S H D Q	S I V G D K T I A F L M D K D M Y	S G M S D L Q P A S P T I	D R G I	ZMSBEI
1550	E - I V Q T L T N R R Y	T E K C I A Y A E S H D Q	S I V G D K T I A F L M D K D M Y	S G M S D L Q P A S P T I	M R G I	RICBEI
1546	E - I S L N L T N R R Y	T E K C V S Y A E S H D Q	S I V G D K T I A F L M D E E M Y	S S M S C L T M L S P T I	E R G I	PSSBEIIGN
1241	A L H K M I R L I T M G L	G G E G Y L N F M G N E F	G H P E W I D F P R G P Q V	L P T G K F I P G N N N S	Y D K C R - R	OsbeII-1ALL
2041	A L H K M I R L I T M G L	G G E G Y L N F M G N E F	G H P E W I D F P R G P Q V	L P T G K F I P G N N N S	Y D K C R - R	Wheat SBEII-2
1853	A L H K M I R L I T M G L	G G E G Y L N F M G N E F	G H P E W I D F P R G P Q V	L P T G S V I P G N N N S	E D K C R - R	ZMSBE2a
1909	A L H K M I R L I T M G L	G G E G Y L N F M G N E F	G H P E W I D F P R G P Q V	L P S G K F I P G N N N S	Y D K C R - R	ZMSBE2b
149						Barley SBEIIa
149						Barley SBEIIb
2024	A L H K M I R L I T M G L	G G E G Y L N F M G N E F	G H P E W I D F P R A P Q V	L P N G K F I P G N N N S	Y D K C R - R	RICBCE3
2024	A L H K M I R L I T M G L	G G E G Y L N F M G N E F	G H P E W I D F P R A P Q V	L P N G K F I P G N N N S	Y D K C R - R	RICESBE-1/97
2179	A L H K M I R L I T M G L	G G E G Y L N F M G N E F	G H P E W I D F P R G E O H	L P N G K I V P G N N N S	Y D K C R - R	PSSBEIIGN
1888	A L H K M I H F F I T M A	L G G E G Y L N F M G N E F	G H P E W I D F P R E - - - -	- G N M S Y D K C R - R	- R	STSBE
1735	A L Q K M I H F F I T M A	L G G D S Y L K F M G N E - - - -	- - - - -	- G N M S Y D K C R - R	- R	TASBEI
1762	A L Q K M I H F F I T M A	L G G D S Y L K F M G N E - - - -	- - - - -	- - - - -	- - - - -	TASBEID2
1739	A L Q K M I H F F I T M A	L G G D G Y L N F M G N E F	G H P E W I D F P R E - - - -	- G N M S Y D K C R - R	- R	ZMSBEI
1727	A L Q K M I H F F I T M A	L G G D G Y L N F M G N E F	G H P E W I D F P R E - - - -	- G N M S Y D K C R - R	- R	RICBEI
1723	S L H K M I H F F I T L A	L G G E G Y L N F M G N E F	G H P E W I D F P R E - - - -	- G N G W S Y E K C R L	- T	PSSBEIIGN

Fig. 2(v).

[illegible]

**WO 00/15810**

PCT/GB99/03011

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Fig. 2(vi).

[illegible]



Fig.2A.

Percent Similarity

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1		67.9	68.8	71.4	85.7	81.6	71.4	72.5	66.8	46.6	45.4	30.4	45.5	45.5	44.4	1
2	14.9		84.3	80.6	85.7	100.0	79.2	78.1	77.6	48.5	49.9	36.7	50.0	49.9	48.0	2
3	13.9	14.6		81.0	87.8	93.9	81.7	78.1	75.9	47.1	49.5	37.5	49.9	49.7	48.1	3
4	10.5	22.2	21.3		85.7	79.6	86.1	86.1	75.9	49.4	50.9	36.5	50.5	50.6	49.0	4
5	11.5	15.9	13.4	15.9		85.7	85.7	85.7	85.7	32.7	26.5	30.6	30.6	28.6	36.7	5
6	16.6	0.0	6.4	23.9	15.9		79.6	79.6	87.8	36.7	32.7	32.7	32.7	28.6	42.9	6
7	10.3	23.5	22.7	14.3	15.9	23.9		100.0	75.8	50.0	50.5	37.5	51.2	50.7	49.1	7
8	20.8	26.3	26.0	14.3	15.9	23.9	0.1		67.9	49.9	51.0	37.9	51.9	51.3	49.5	8
9	29.3	24.5	26.6	27.4	15.9	13.4	28.7	39.5		47.9	49.1	37.2	50.0	50.0	48.1	9
10	66.2	57.7	60.3	58.1	91.7	79.9	56.0	65.5	67.4		68.3	49.0	71.1	70.0	72.6	10
11	68.4	58.6	59.3	58.2	121.4	98.3	57.1	66.1	67.5	38.2		58.7	82.6	83.3	67.9	11
12	88.4	88.7	89.9	84.9	118.1	95.3	85.1	93.8	96.7	58.8	38.0		57.2	58.5	46.7	12
13	66.6	60.0	61.1	59.6	127.2	102.3	57.8	65.7	67.9	33.8	19.1	41.1		85.2	71.4	13
14	67.8	59.8	60.9	59.2	105.4	105.4	58.0	67.7	67.2	36.4	16.6	38.2	14.9		70.1	14
15	65.7	60.0	61.1	59.3	79.9	64.6	57.2	66.6	68.5	28.8	38.9	61.0	33.1	34.9		15
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

Percent Divergence



Fig.3(i).

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A T A T G T A T G A T T T C A T G G C T C T G G A T G G A C C T T C G A C T C C T C G T A T T G A T										Majority SEQ ID No:53																																									
10										50																																									
1	A	T	-	-	G	T	A	T	G	A	T	T	T	C	A	T	G	G	C	T	C	T	G	A	C	C	T	A	A	T	A	T	T	G	A	T	B2.seq														
1	A	T	-	-	G	T	A	T	G	A	T	T	T	C	A	T	G	G	C	T	C	T	T	C	G	A	C	C	T	A	A	T	A	T	T	G	A	T	B4.seq												
1	A	T	-	-	G	T	A	T	G	A	T	T	T	C	A	T	G	G	C	G	C	T	T	C	G	A	C	C	T	A	A	T	A	T	T	G	A	T	B10.seq												
1	A	T	A	T	G	T	A	T	G	A	T	T	T	C	A	T	G	G	C	T	C	T	T	C	A	C	T	C	C	T	C	G	C	A	T	T	G	A	T	A2.seq											
1	A	T	A	T	G	T	A	T	G	A	T	T	T	C	A	T	G	G	C	T	C	T	T	C	A	A	C	T	C	C	T	C	G	C	A	T	T	G	A	T	B1.seq										
1	A	T	A	T	G	T	A	T	G	A	T	T	T	C	A	T	G	G	C	T	C	T	T	C	A	A	C	T	C	C	T	C	G	C	A	T	T	G	A	T	B11.seq										
C G T G G C A T A G C A T T G C A T A A A A T G A T T A G G C T T G T C A C C A T G G G T T T A G G										Majority																																									
60										100																																									
49	C	G	T	G	G	A	A	T	A	G	C	A	C	T	G	C	A	T	A	A	A	T	G	A	T	T	A	N	A	C	T	T	A	T	C	A	C	A	T	G	G	G	T	T	A	G	G	B2.seq			
49	C	G	T	G	G	A	A	T	A	G	C	A	C	T	G	C	A	T	A	A	A	A	T	G	A	T	T	A	G	A	C	T	T	A	T	C	A	C	A	A	T	G	G	G	T	T	A	G	G	B4.seq	
49	C	G	T	G	G	A	A	T	A	G	C	A	C	T	G	C	A	T	A	A	A	A	T	G	A	T	T	A	G	A	C	T	T	A	T	C	A	C	A	A	T	G	G	G	T	T	A	G	G	B10.seq	
51	C	G	T	G	G	C	A	T	A	G	C	A	T	T	A	C	A	T	A	A	A	A	T	G	A	T	T	C	A	G	G	C	T	T	G	T	C	A	C	A	T	G	G	G	T	T	A	G	G	A2.seq	
51	C	G	T	G	G	C	A	T	A	G	C	A	T	T	A	C	A	T	A	A	A	A	T	G	A	T	T	C	A	G	G	C	T	T	G	T	C	A	C	A	T	G	G	G	T	T	A	G	G	B1.seq	
51	C	G	T	G	G	C	A	T	A	G	C	A	T	T	A	C	A	T	A	A	A	A	T	G	A	T	T	C	A	G	G	C	T	T	G	T	C	A	C	A	T	G	G	G	T	T	A	G	G	B11.seq	
T G G A G A G G G T T A T C T T A A C T T T A T G G G A A A T G A G T T T G G G C A T C C T G A A T										Majority																																									
110										150																																									
99	C	G	G	A	G	A	G	G	T	T	A	T	C	T	T	A	A	C	T	T	T	A	T	G	G	G	A	A	A	T	G	A	G	T	T	C	G	G	C	A	T	C	C	T	G	A	A	T	B2.seq		
99	A	G	G	A	G	A	G	G	T	T	A	T	C	T	T	A	A	C	T	T	T	A	T	G	G	G	A	A	A	T	G	A	G	T	T	C	G	G	C	A	T	C	C	T	G	A	A	T	B4.seq		
99	A	G	G	A	G	A	G	G	T	T	A	T	C	T	T	A	A	C	T	T	T	A	T	G	G	G	A	A	A	T	G	A	G	T	T	C	G	G	C	A	T	C	C	T	G	A	A	T	B10.seq		
101	T	G	G	C	G	A	A	G	G	C	T	A	T	C	T	T	A	A	C	T	T	C	A	T	G	G	G	A	A	A	T	G	A	G	T	T	T	G	G	C	A	T	C	C	T	G	A	A	T	A2.seq	
101	T	G	G	T	G	A	A	G	G	C	T	A	T	C	T	T	A	A	C	T	T	C	A	T	G	G	G	A	A	A	T	G	A	G	T	T	T	G	G	C	A	T	C	C	T	G	A	A	T	B1.seq	
101	T	G	G	C	G	A	A	G	G	C	T	A	T	C	T	T	A	A	C	T	T	C	A	T	G	G	G	A	A	A	T	G	A	G	T	T	T	G	G	C	A	T	C	C	T	G	A	A	T	B11.seq	
G G A T A G A T T T T C C A A G A G G C C C A C A A G T T C T T C C A A C T G G T A A G T T T C T C										Majority																																									
160										200																																									
149	G	G	A	T	A	G	A	C	T	T	T	C	C	A	A	G	A	G	G	C	C	C	A	C	A	A	G	T	A	C	T	T	C	C	A	A	G	T	T	C	A	T	C	C	A	T	C	B2.seq			
149	G	G	A	T	A	G	A	C	T	T	T	C	C	A	A	G	A	G	G	C	C	C	A	C	A	A	G	T	A	C	T	T	C	C	A	A	C	T	G	G	T	A	A	G	T	T	C	A	T	C	B4.seq
149	G	G	A	T	A	G	A	C	T	T	T	C	C	A	A	G	A	G	G	C	C	C	A	C	A	A	G	T	A	C	T	T	C	C	A	A	G	T	T	C	A	T	C	C	A	T	C	B10.seq			
151	G	G	A	T	A	G	A	C	T	T	T	C	C	A	A	G	A	G	G	T	C	C	G	C	A	A	A	C	T	C	T	T	C	C	A	A	C	C	G	G	T	A	A	G	T	T	C	C	A2.seq		
151	G	G	A	T	A	G	A	C	T	T	T	C	C	A	A	G	A	G	G	T	C	C	A	C	A	A	A	C	T	C	T	T	C	C	A	A	C	C	G	G	T	T	C	C	A	T	C	C	B1.seq		
151	G	G	A	T	A	G	A	C	T	T	T	C	C	A	A	G	A	G	G	T	C	C	G	C	A	A	A	C	T	C	T	T	C	C	A	A	C	C	G	G	T	T	C	C	A	T	C	C	B11.seq		

Fig.3(ii).

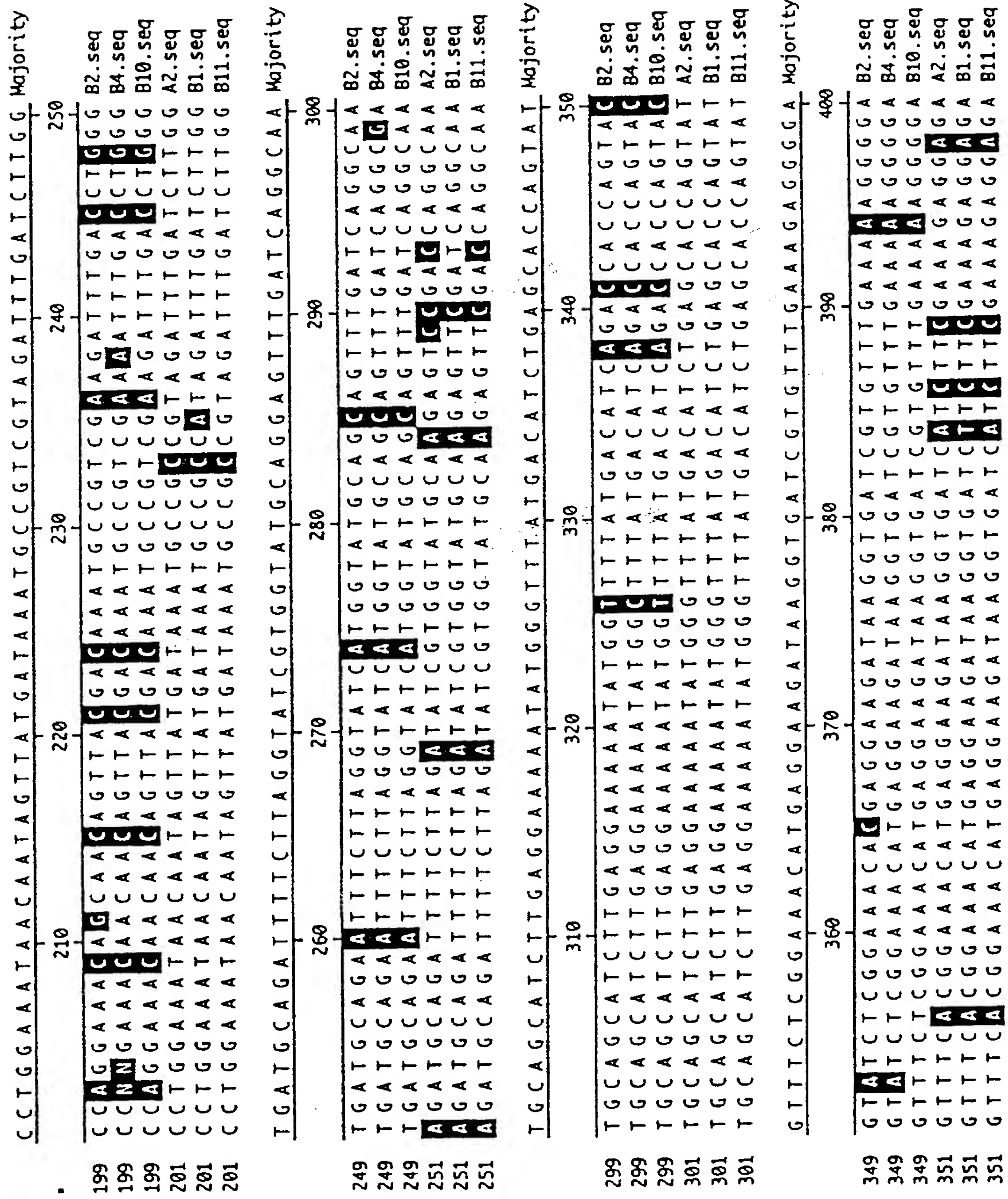


Fig.3(iii).

	T T T G G T A T T T G T T T T C A A C T T C C A C T G G A G T A A T A G C T T T T T T G A C T A C C	Majority			
	410	420	430	440	450
399	C T T G G T A T T T G T T G T T C A A C T T C C A C T G G A G T A A T A G C T A T T T C G A C T A C C	B2.seq			
399	C T T G G T A T T T G T T G T T C A A C T T C C A C T G G A G T A A T A G C T A T T T C G A C T A C C	B4.seq			
399	C T T G G T A T T T G T T G T T C A A C T T C C A C T G G A G T A A T A G C T A T T T C G A C T A C C	B10.seq			
401	T T T G G T A T T T C G T T T T C A A C T T C C A C T G G A G T A A T A G C T A T T T T G A C T A C C	A2.seq			
401	T T T G G T A T T T G T T T T T C A A C T T C C A C T G G A G T A A T A G C T A T T T T G A C T A C C	B1.seq			
401	T T T G G T A T T T G T T T T T C A A C T T C C A C T G G A G T A A T A G C T A T T T T G A C T A C C	B11.seq			
	G T G T T G G G T G T T T C A A G C C T G G G A A G T A C A A G G T G G T C T T A G A C T C C G A C	Majority			
	460	470	480	490	500
449	G G T C G G C T G T T T A A A G C C T G G G A A G T A C A A G G T G G T C T T A G A C T C A G A C	B2.seq			
449	G G T T G G C T G T T T A A A G C C T G G G A A G T A C A A G G T G G T C T T A G A C T C A G A C	B4.seq			
449	G G T C G G C T G T T T A A A G C C T G G G A A G T A C A A G G T G G T C T T A G A C T C A G A C	B10.seq			
451	G T G T T G G G T G T T C A A G C C T G G G A A G T A C A A G G T G G T C T T A G A C T C C G A C	A2.seq			
451	G T G T T G G G T G T T C A A G C C T G G G A A G T A C A A G G T G G T C T T A G A C T C C G A C	B1.seq			
451	G T G T T G G G T G T T C A A G C C T G G G A A G T A C A A G G T G G T C T T A G A C T C C G A C	B11.seq			
	G C T G G A C T C T T T G G T G G A T T T G G T A G G C T T G A T C A T G C T G T C G A G T A C T T	Majority			
	510	520	530	540	550
499	G C T G G A C T C T T T G G T G G A T T T T G G T A G G A T C A T G C T G T C G A G T A C T T	B2.seq			
499	G C T G G A C T C T T T G G T G G A T T T T G G T A G G A T C A T G C T G T C G A G T A C T T	B4.seq			
499	G C T G G A C T C T T T G G T G G A T T T T G G T A G G A T C A T G C T G T C G A G T A C T T	B10.seq			
501	G A T G C A C T C T T T G G T G G A T T C A G C A G G C T T G A T C A T G A T G T C G A C T A C T T	A2.seq			
501	G A T G C A C T C T T T G G T G G A T T C A G C A G G C T T G A T C A T G A T G T C G A C T A C T T	B1.seq			
501	G A T G C A C T C T T T G G T G G A T T C A G C A G G C T T G A T C A T G A T G T C G A C T A C T T	B11.seq			
	C A C T T C T G A C T G T C C G C A T G A C A A C A G G C C G C A T T C T T T C T C G G T G T A C A	Majority			
	560	570	580	590	600
549	C A C T T C T G A C T G T C C A A C A T G A C A A C A G G C C C C A T T C G T T C T C A G T G T A C A	B2.seq			
549	C A C T T C T G A C T G T C C A A C A T G A C A A C A G G C C C C A T T C G T T C T C A G T G T A C A	B4.seq			
549	C A C T T C T G A C T G T C C A A C A T G A C A A C A G G C C C C A T T C G T T C T C A G T G T A C A	B10.seq			
551	C A C A A C C G A A C A T C C G C A T G A C A A C A G G C C C G C T T C T C T C G G T G T A C A	A2.seq			
551	C A C A A C C G A A C A T C C G C A T G A C A A C A G G C C C G C T T C T C T C G G T G T A C A	B1.seq			
551	C A C A A C C G A A C A T C C G C A T G A C A A C A G G C C C G C T T C T C T C G G T G T A C A	B11.seq			



Fig.3(iv).

CTCCCTAGCAGAACTTGGTGTGGTGTATGCTCTTATGGAGTAAAGCAGCAA - G Majority									
610620630640650									
599	CTCCCTAGCAGAACTTGGTGTGGTGTCTATGCTCTCAATGACATAACAGCAAAG	B2.seq							
599	CTCCCTAGCAGAACTTGGTGTGGTGTCTATGCTCTCAATGACATAACAGCAAAG	B4.seq							
599	CTCCCTAGCAGAACTTGGTGTGGTGTCTATGCTCTCAATGACATAACAGCAAAG	B10.seq							
601	CTCCCTAGCAGAACTTGGTGTGGTGTCTATGCTCTCAATGACATAACAGCAAAG	A2.seq							
601	CTCCCTAGCAGAACTTGGTGTGGTGTCTATGCTCTCAATGACATAACAGCAAAG	B1.seq							
601	CTCCCTAGCAGAACTTGGTGTGGTGTCTATGCTCTCAATGACATAACAGCAAAG	B11.seq							
TGCAAGCATAACGC - TGGC - CGCTGTGTGTGCTAG - - TAGCAAGGAGATC Majority									
660670680690700									
648	TGCCAGCATAACGCCGTGCTGTGTGTGCTAG - - TAGCAAGGAGATC	B2.seq							
649	TGCCAGCATAACGCCGTGCTGTGTGTGCTAG - - TAGCAAGGAGATC	B4.seq							
648	TGCCAGCATAACGCCGTGCTGTGTGTGCTAG - - TAGCAAGGAGATC	B10.seq							
648	TGCCAGCATAACGCCGTGCTGTGTGTGCTAG - - TAGCAAGGAGATC	A2.seq							
648	TGCCAGCATAACGCCGTGCTGTGTGTGCTAG - - TAGCAAGGAGATC	B1.seq							
648	TGCCAGCATAACGCCGTGCTGTGTGTGCTAG - - TAGCAAGGAGATC	B11.seq							
GTA - GGTCACTACA - CCAGGTGCAGGGTTTGTATATGGATT - GCTTGA Majority									
710720730740750									
694	GTA - GGTCACTACA - CCAGGTGCAGGGTTTGTATATGGATT - GCTTGA	B2.seq							
699	GTA - GGTCACTACA - CCAGGTGCAGGGTTTGTATATGGATT - GCTTGA	B4.seq							
694	GTA - GGTCACTACA - CCAGGTGCAGGGTTTGTATATGGATT - GCTTGA	B10.seq							
677	GTA - GGTCACTACA - CCAGGTGCAGGGTTTGTATATGGATT - GCTTGA	A2.seq							
677	GTA - GGTCACTACA - CCAGGTGCAGGGTTTGTATATGGATT - GCTTGA	B1.seq							
677	GTA - GGTCACTACA - CCAGGTGCAGGGTTTGTATATGGATT - GCTTGA	B11.seq							
GCCAGTCCCTGGATGGGCAAGACAGCGTGATGCTGTG - - TGTGCTCCCA A Majority									
760770780790800									
744	GCCAGTCCCTGGATGGGCAAGACAGCGTGATGCTGTG - - TGTGCTCCCA A	B2.seq							
748	GCCAGTCCCTGGATGGGCAAGACAGCGTGATGCTGTG - - TGTGCTCCCA A	B4.seq							
743	GCCAGTCCCTGGATGGGCAAGACAGCGTGATGCTGTG - - TGTGCTCCCA A	B10.seq							
702	GCCAGTCCCTGGATGGGCAAGACAGCGTGATGCTGTG - - TGTGCTCCCA A	A2.seq							
702	GCCAGTCCCTGGATGGGCAAGACAGCGTGATGCTGTG - - TGTGCTCCCA A	B1.seq							
702	GCCAGTCCCTGGATGGGCAAGACAGCGTGATGCTGTG - - TGTGCTCCCA A	B11.seq							

Fig. 3(v).

	810	820	830	840	850	Majority
794	TCC	CCAGGCGTGTGAAGAAACA	TGCTCA	TGTGTTATGAT	TTTAT	B2.seq
798	ATTC	CCAGGCGTGTGN	TGCTCA	TGTGTTATCAT	TTTAT	B4.seq
793	TCC	CCAGGCGTGTGTGAAGAAACA	TGCTCA	TGTGTTAT	TTTAT	B10.seq
736	AGC	CCCATGAC	TGCGAGGGGATCGTGCC	TCTTCCCCCAGAT	GCCAGGA	A2.seq
736	AGC	CCCATGAC	TGCGAGGGGATCGTGCC	TCTTCCCCCAGAT	GCCAGGA	B1.seq
736	AGC	CCCATGAC	TGCGAGGGGATCGTGCC	TCTTCCCCCAGAT	GCCAGGA	B11.seq
	G G A T C A G - G A T G G A A C - T C C C C T A G G T A G C C - -	T T G T T G G T G A G C G C T C				Majority
843	G G A T C A G C G A C C G A A A C T T C C C C C C A A A T A C C C - -	- - - - -	- - - - -	- - - - -	- - - - -	B2.seq
848	G G A T C A G N G N G A A A C C T C C C C C C A A A T A C C C - -	- - - - -	- - - - -	- - - - -	- - - - -	B4.seq
839	G G A T C A G G G A N G A A A C C T C C C C C C A A A N A C C C C T T T T T T T G A A A G G N G	- - - - -	- - - - -	- - - - -	- - - - -	B10.seq
783	G G A G C A G - - A T G G A - -	- - - - -	- - - - -	- - - - -	- - - - -	A2.seq
783	G G A G C A G - - A T G G A - -	- - - - -	- - - - -	- - - - -	- - - - -	B1.seq
783	G G A T C A G - - A T G G A - -	- - - - -	- - - - -	- - - - -	- - - - -	B11.seq
	G A A A G A A - - - A A T G G A C G G G C C T G G G T G T T G C T T A A A -	T T T T G T T G C C				Majority
874	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	B2.seq
879	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	B4.seq
889	G A T A G C C C C C G G T N T C T G C A T N T G G A T G C C T C C T T A A A T N T T T G T A G C C	B10.seq				
819	G A A G A A - - - A A T G G A C G G G C C T G G G T G T T G	- - - - -	- - - - -	- - - - -	- - - - -	A2.seq
819	G A A G A A - - - A A T G G A C G G G C C T G G G T G T T G	- - - - -	- - - - -	- - - - -	- - - - -	B1.seq
819	G A A G A A - - - A A T G G A C G G G C C T G G G T G T T G	- - - - -	- - - - -	- - - - -	- - - - -	B11.seq
	C T A A A C C C T C G C T C C C T A T C T T G T A C A T T G C C G G T T T A G -	A T A G - G G T T - T				Majority
898	G T A A A C C A T T G C T A G T G T C C T C T A A A T T G A C A G T T T A G C A T A G A G G T T T	T				B2.seq
903	C T A A A C C A T T G C C T A C T A T C C T C T A A A T T G G C A G T T T A G C A T A G A G G T T T	T				B4.seq
939	A T A A A C C A T T G C C T A G T G T C C T N T A A A T T G A C A G T T T A G A A T A G N G G T T N T	T				B10.seq
858	C T - - A C C C T C - C T C C C T A T C T T G C A C A T T C C C G G T T - - - - -	- - - - -	- - - - -	- - - - -	- - - - -	A2.seq
858	C T G A A C C C C T C - C T C C C T A T C T T G C A C A T T C C C G G T T - - - - -	- - - - -	- - - - -	- - - - -	- - - - -	B1.seq
858	C T T A A C C C C T C - C T C C C T A T G T T G C A C A T T C C C G G T T - - - - -	- - - - -	- - - - -	- - - - -	- - - - -	B11.seq

Fig. 3(vi).

[illegible]

Decoration 'Decoration #1': Shade (with solid black) residues that differ from the Consensus.



Fig.3A.

		Percent Similarity							
Percent Divergence		1	2	3	4	5	6		
	1		91.0	94.4	59.0	60.0	59.5	1	B2.seq
	2	4.5		89.2	58.8	59.9	59.6	2	B4.seq
	3	2.4	4.6		59.3	59.6	59.8	3	B10.seq
	4	32.6	32.3	34.3		95.5	95.7	4	A2.seq
	5	30.5	29.7	32.0	2.1		96.8	5	B1.seq
	6	31.6	30.9	32.6	2.4	2.7		6	B11.seq
		1	2	3	4	5	6		

Fig.4A.

		Percent Similarity					
Percent Divergence		1	2	3	4		
	1		88.7	81.7	85.0	1	Maizellb.pro
	2	10.8		82.2	82.6	2	B6.pro
	3	17.9	17.5		86.9	3	B11.pro
	4	14.6	17.0	12.7		4	Maizella.pro
		1	2	3	4		

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Fig.4.

1 MYDFMALDRPSTPTIDRGIALHKMIRLITM MaizeIIb.pro SEQ ID No: 30  
1 MYDFMAL**NG**PSTPNIDRGIALHKMIRLITM B6.pro SEQ ID No: 7  
1 MYDFMALDRPSTPRIDRGIALHKMIRL**V**TM B11.pro SEQ ID No: 28  
1 MYDFMALDRPSTPRIDRGIALHKMIRL**V**TM MaizeIIa.pro SEQ ID No: 29

31 GLGGEGLYNFMGNEFGHP EWIDFPRGPQRL MaizeIIb.pro  
31 GLGGEGLYNFMGNEFGHP EWIDFPRGPQ**V**L B6.pro  
31 GLGGEGLYNFMGNEFGHP EWIDFPRGPQ**T**L B11.pro  
31 GLGGEGLYNFMGNEFGHP EWIDFPRGPQ**S**L MaizeIIa.pro

61 PSGKFIPGNNSYDKCRRRFDLGDADYLR Y MaizeIIb.pro  
61 PSGKFIPGN**S**NSYDKCRRRFDLGDAD**EF**LR Y B6.pro  
61 **P****T**KG**V**LPGNNNSYDKCRRRFDLGDAD**F**LR Y B11.pro  
61 **P****NG****SV**IPGNNS**F**DKCRRRFDLGDADYLR Y MaizeIIa.pro

91 HGMQEFDQAMQHLEQKYEFMTSDHQYISRK MaizeIIb.pro  
91 HGMQ**Q**FDQAMQHLE**E**KY**G**FMTSDHQY**V**SRK B6.pro  
91 **R**GMQEFDQAMQHLE**E**KY**G**FMTSD**E**HQY**V**SRK B11.pro  
91 **R**GMQEFDQAMQHLE**G**KYEFMTSDH**S**Y**F**SRK MaizeIIa.pro

121 HEEDKVIIVFEKGDLVVFVFNFH C N N S Y F D Y R MaizeIIb.pro  
121 HEEDKVIIVFEKGDLVVFVFNFH **WS** N S Y F D Y R B6.pro  
121 HEEDKVI**I**FER**R**GDLVVFVFNFH **WS** N S **F** F D Y R B11.pro  
121 HEEDKVI**I**FER**R**GDLVVFVFNFH **WS** N S Y F D Y R MaizeIIa.pro

151 IGCRKPGVYKVVLDS DAGLFGGF SR I H H A A MaizeIIb.pro  
151 **V**GC**L**KPG**K**YKVVLDS DAGLFGGF **G**R I H H **T**A B6.pro  
151 **V**GC**S**KPG**K**YKV**A**LDS D**D**ALFGGF SR **L**DH**D****V** B11.pro  
151 **V**GC**F**KPG**K**YK**I**VLDS D**D**GLFGGF SR **L**DH**D**A MaizeIIa.pro

181 EHFTADC SHDNRPYSFSVYTPSRTC V V Y A P MaizeIIb.pro  
181 EHFT**S**DC**Q**H DNRPH**S**FSVYTPSRTC V V Y A P B6.pro  
181 **D**YFT**T**EH**P**H DNR**P****R**S**F**L**V**YTPSRT**A**V V Y A **L** B11.pro  
181 **E**YFTAD**W**P**H** DNR**P****C**SFSVY**A**PSRT**A**V V Y A P MaizeIIa.pro

211 V - - - **E** MaizeIIb.pro  
211 M - - - **N** B6.pro  
211 T - - - **E** B11.pro  
211 A G A E D E MaizeIIa.pro

Decoration 'Decoration #1': Shade (with solid black) residues that differ from MaizeIIb.pro.

Fig.5.

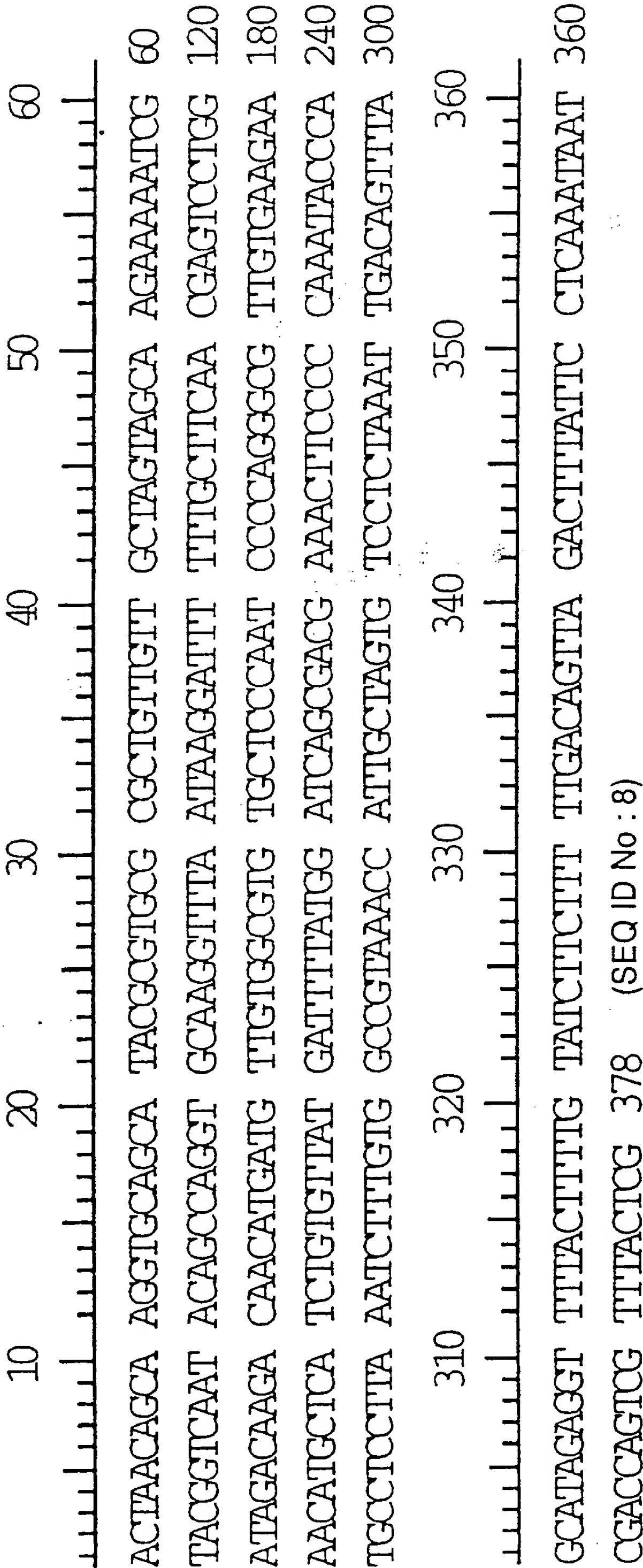




Fig.6.

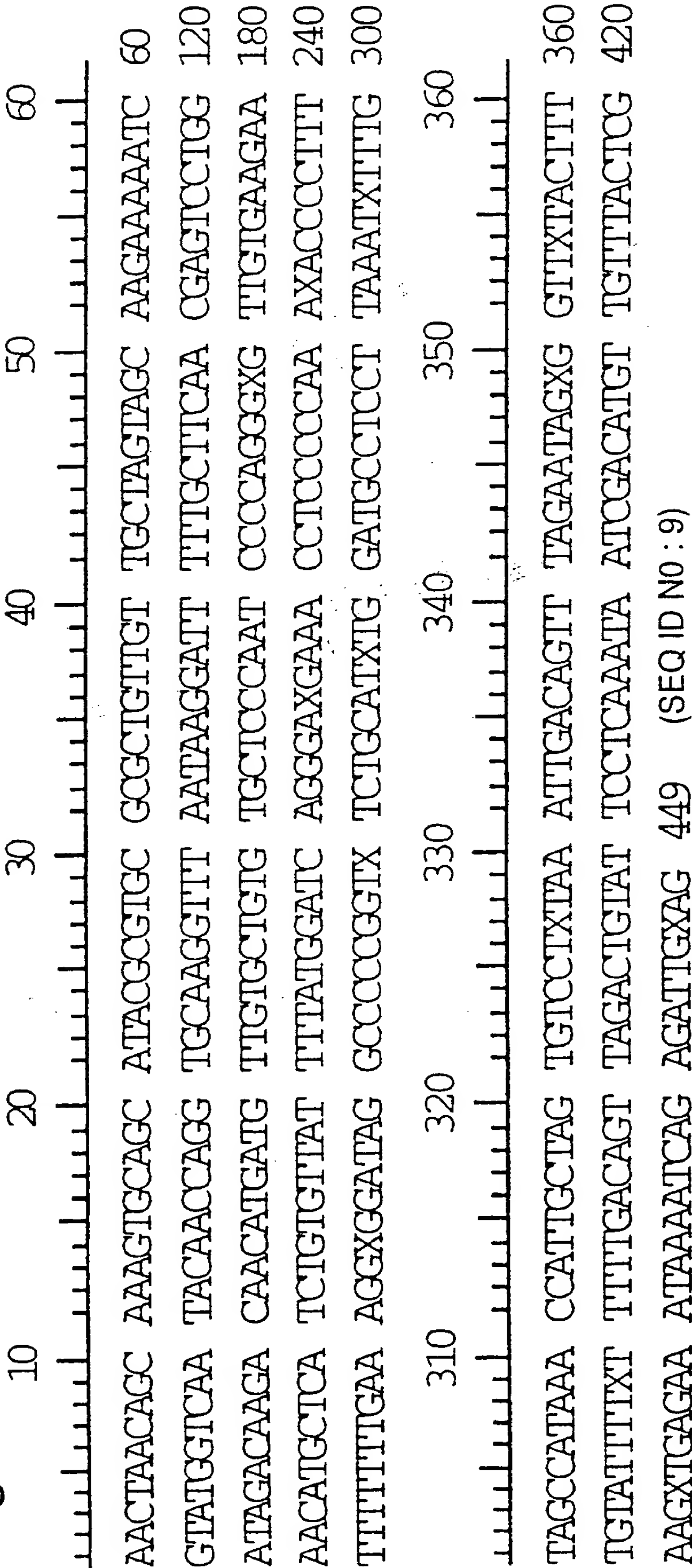


Fig. 7.

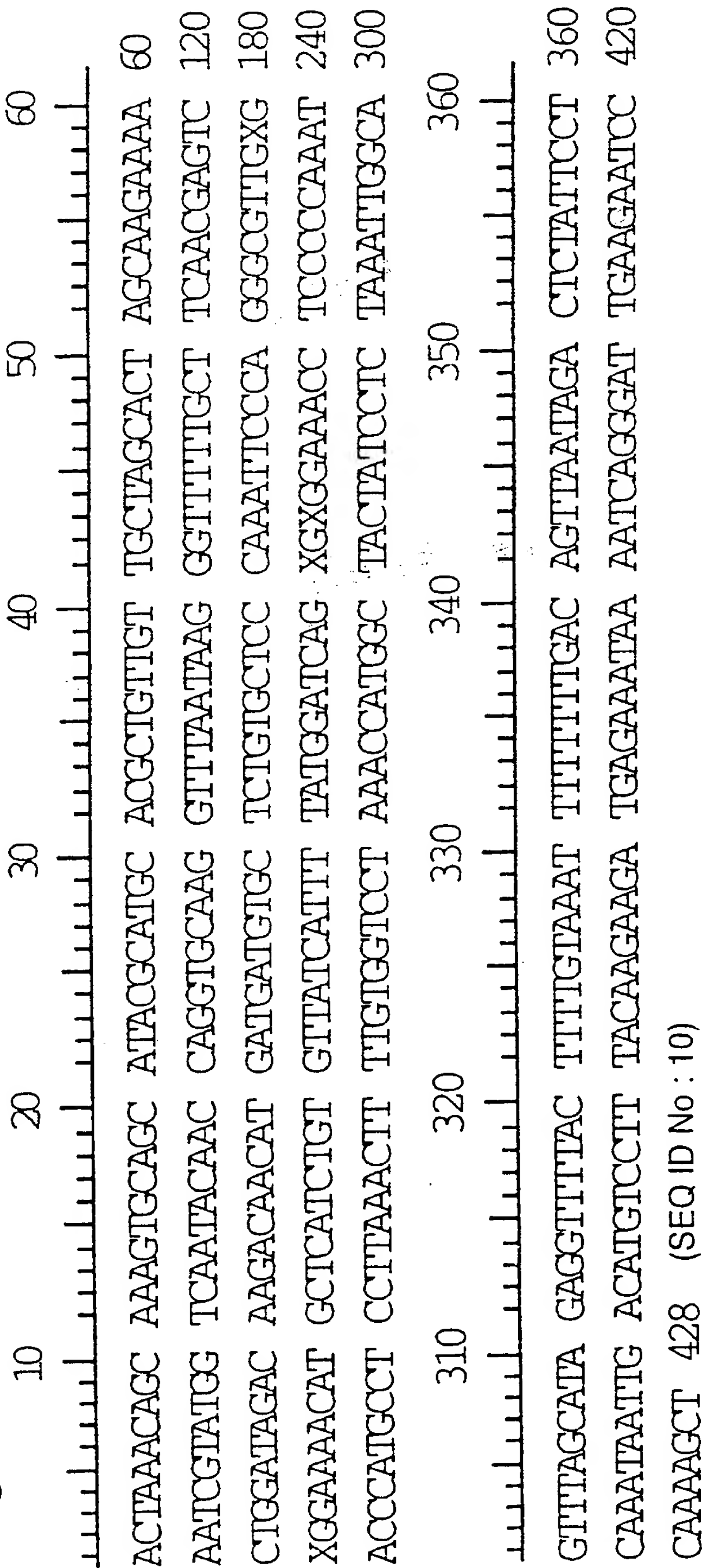


Fig. 8(i).		1		A A C T A A C A G C A A A G T G C A G C A T A C G C G T G C	B10-3'.seq	SEQ ID No: 9
		1		A - C T A A C A G C A A G G T G C A G C A T A C G C G T G C	B2-3'.seq	SEQ ID No: 8
		1		A C T A A A C A G C A A A G T G C A G C A T A C G C A T G C	B4-3'.seq	SEQ ID No: 10
		1		- - - - - T A G C G G G T A C - - - - - - - - - - - - - - -	ZMSBE2b-3'.seq	SEQ ID No: 31
		31		G C G C T G T T G T T G C T A G - - - T A G C A A G A A A	B10-3'.seq	
		30		G C G C T G T T G T T G C T A G - - - T A G C A A G A A A	B2-3'.seq	
		31		A C G C T G T T G T T G C T A G C A C T A G C A A G A A A	B4-3'.seq	
		12		- - - - - T C G T T G C T - G C G C - G G C A - - - - -	ZMSBE2b-3'.seq	
		58		A - T C G T A T G G T C A A T A C A A C C A G G T G C A A G	B10-3'.seq	
		57		A - T C G T A C G G T C A A T A C A G C C A G G T G C A A G	B2-3'.seq	
		61		A A T C G T A T G G T C A A T A C A A C C A G G T G C A A G	B4-3'.seq	
		28		- - - T G T G T G G - - - - - G G C T G T C - G A T G T G A G	ZMSBE2b-3'.seq	
		87		G T T A A T A A G G A T T T T T - G C C T T C A A C G A G T	B10-3'.seq	
		86		G T T A A T A A G G A T T T T T T G C C T T C A A C G A G T	B2-3'.seq	
		91		G T T A A T A A G G A T T T T T T - G C C T T C A A C G A G T	B4-3'.seq	
		50		G - - - - A A A A C C T T C T - - - T C C A A - - A A C	ZMSBE2b-3'.seq	
		116		C C T G G A T A G A C A A G A C A A C A T G A T G T T G T G	B10-3'.seq	
		116		C C T G G A T A G A C A A G A C A A C A T G A T G T T G T G	B2-3'.seq	
		120		C C T G G A T A G A C A A G A C A A C A T G A T G T T G T G	B4-3'.seq	
		70		C - - - G G C A G A T G - - - - - C A T G - - - C A T G	ZMSBE2b-3'.seq	
		146		C T G T G C C C C A A - T C C C C C A G G G N G T T G T	B10-3'.seq	
		146		G C G T G C C C C A A - T C C C C C A G G G C G T T G T	B2-3'.seq	
		150		C T C T G C C C C A A A T T C C C C A G G G C G T T G N	B4-3'.seq	
		87		C - - - A T G C T A C - - - A A T - - - - - A G G T - - - - -	ZMSBE2b-3'.seq	
		175		G A G A A A C A T G C C T C A T C T G T G T T A T - - - T	B10-3'.seq	
		175		G A G A A A C A T G C C T C A T C T G T G T T A T G A T T	B2-3'.seq	
		180		G N G A A A C A T G C C T C A T C T G T G T T A T C A T T	B4-3'.seq	
		103		- - - - - - - - - - - - - - - T C T G - - - - - A T - A C T	ZMSBE2b-3'.seq	
		202		T T A T G G A T C A G G G A N G A A C C T C C C C C A A A	B10-3'.seq	
		205		T T A T G G A T C A G G C G A C G A A A C C T C C C C C A A A	B2-3'.seq	
		210		T T A T G G A T C A G G N G G A A A C C T C C C C C A A A	B4-3'.seq	
		112		T T A - - - A T C G - - - - - - - - - - - - - - - A	ZMSBE2b-3'.seq	



[illegible]

Fig.8(iii).

409	G	T	G	T	T	A	C	T	C	G	A	A	G	N	T	G	A	G	A	A	T	A	A	T	C	B10-3'.seq
367	G	T	C	G	T	T	A	C	T	C	G															B2-3'.seq
375	G	T	C	C	T	T	A	C	A	A	G	A	T	G	A	G	A	A	T	A	A	A	T	C		B4-3'.seq
209	-	-	C	G	C	T	T	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ZMSBE2b-3'.seq
439	A	G	A	G	A	T	T	G	N	A	G															B10-3'.seq
378																										B2-3'.seq
405	A	G	G	G	A	T	T	G	A	A	G	A	A	T	C	C	C	A	A	A	G	C	T			B4-3'.seq
216	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ZMSBE2b-3'.seq

Decoration 'Decoration #1': Shade (with solid black) residues that differ from B10-3'.seq.

Fig.8A.

Percent Divergence					Percent Similarity					
	1	2	3	4						
1		88.9	76.2	26.3	1					B10-3'.seq
2	4.1		81.2	31.8	2					B2-3'.seq
3	7.2	9.4		29.5	3					B4-3'.seq
4	33.5	32.6	33.9		4					ZMSBE2b-3'.seq
	1	2	3	4						

Fig.9A.

Chinese Spring

N2AT2B  
N2BT2D  
N2DT2A

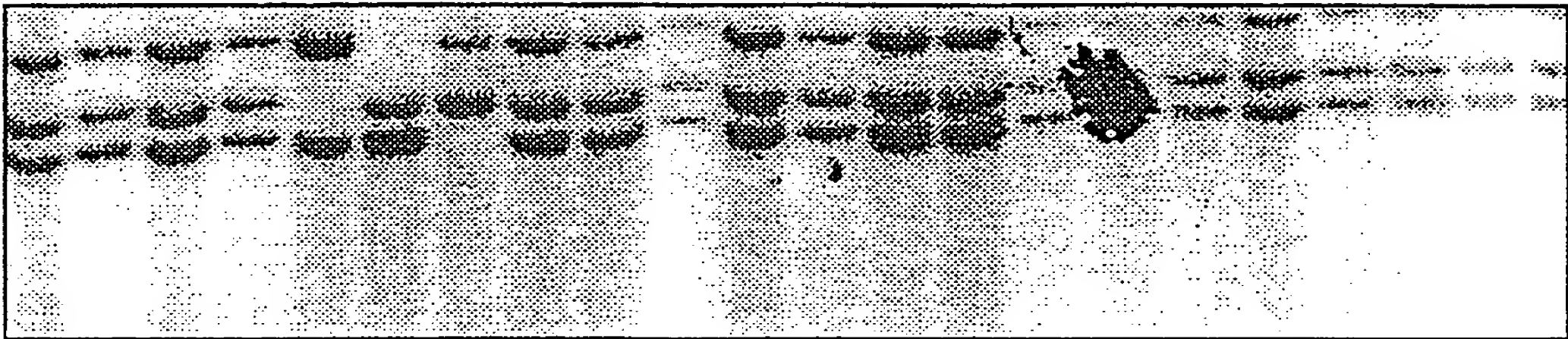


Fig.9B.

Chinese Spring

N2AT2B  
N2BT2D  
N2DT2A

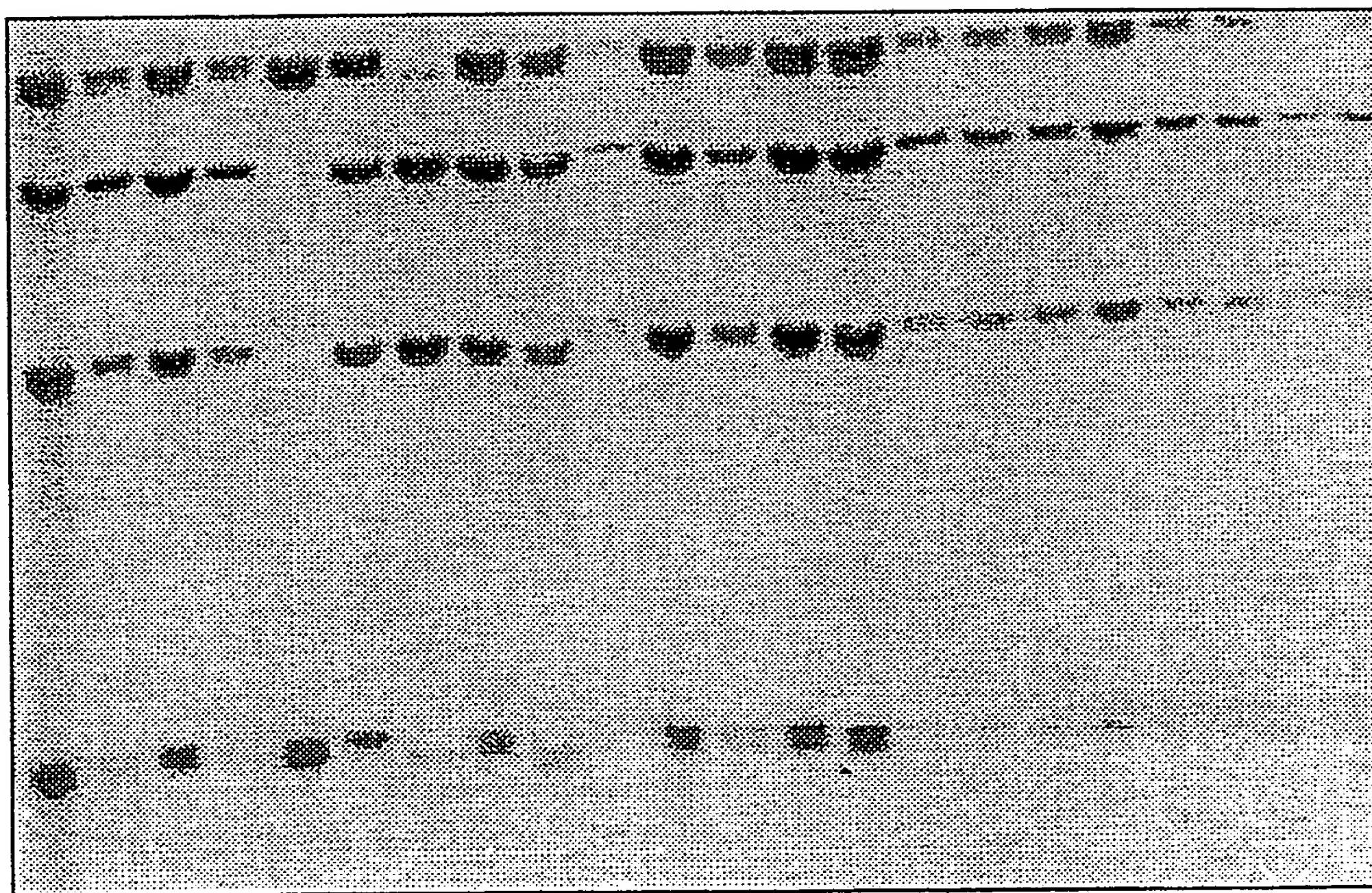




Fig.10(i).

CATYACGGCCAGTACGCTCGGTACCCGGGATCCGATTGGTGTGGGAGATGTTCTTGCCAAACAATGCAGATGTTGCCC 90 SEQ ID No:1  
I D G O . L R A R Y P G I R F G V W E M F L P N N A D G S P SEQ ID No:2

ACCAATTCCTCACGGCTCAGGGTGAAGTGAAGTACCTCCATCTGGGATAAAGGATTCAATTCCTGCTGGATCAAGTACTCCGT 180

P I P H G S R V K V R H D T P S G I K D S I P A W I K Y S V

GCAGACTCCAGGAGATATACCATACAATGGAATATATTATGATCCTCCGAGAGGAGAAGTATGTATTCAAGCATCCTCAACCTAAACG 270

Q T P G O I P Y N G I Y Y D P P E E K Y V F K H P Q P K R

ACCAAAATCATTCGGGATATATGAACACATGTTGGCATGAGTAGCCCGGAACCAAGATCAACACATATGCCAAACITCAGGGATGAGGT 360

P K S L R I Y E T H V G H S S P E P K I N T Y A N F R D E V

GCITCCAAGAAATIAAAGACTTGGATACAAATGCAGTGCAAATAATGGCAATCCAGGAGCACTCATATACTATGGAAGCTTTGGGTACCATGT 450

L P R I K R L G Y N A V Q I M A I Q E H S Y Y G S F G Y H V

TACCAATTTCTTTGCACCAAGTAGCCGTTTGGGTCCCGAAGATTTAAATCTTTGATTGATAGAGCTCAGAGCTTGGCTTGGTTGT 540

T N F F A P S S R F G S P E D L K S L I D R A H E L G L V V

CCTCATGGAITGTTTCACAGTCACGGCTCAATAATACCTTGGACGGTGTGAATGGTTTGATGGCAGGATACACATTACTTCCATGG 630

L H D V V H S H A S N N T L D G L N G F D G T D T H Y F H G

CGGTTACGGGGCCATCAGTGGATGTTCCCGTGTGTTAACTATGGGAATAAGGAAGTTATAAGTTTCTACTTTCCTCAATGCAAG 720

G S R G H H W M W D S R V F N Y G N K E V I R F L L S N A R

ATGGTGGCTAGAGGAGTATAAGTTTGATGGTTTCCGATTCCGATGGCGCGACCTCCATGATGTATACCCCATCATGGATTACAAGTAACCTT 810

W W L E E Y K F D G F R F D G A T S M M Y T H H G L O V T F

Fig. 10(ii).

TACAGGAAGCTACCATGAATATTTGGCTTTGCCACTGATGATGCGGTCGTTTACTTGATGCTGATGAATGATCTAATTCATGGGTT 900  
T G S Y H E Y F G F A T D V D A V V Y L M L M N D L I H G F  
TTATCCTGAAGCCGTAACATATCGGTGAAGATGTTAGTGAATGCCCTACATTTGCCCTTCCCTGTTCAAGTTGGTGGGTTGGTTTIGACIA 990  
Y P E A V T I G E D V S G M P T F A L P V Q V G G V G F D Y  
TCGCTTACATATGGCTGTGCGCACAAATGGATTGAACITCTCAAGGAACGATGAAGCTTGGGAGATGGGTAATATTTGTCACACACT 1080  
R L H M A V A D K W I E L L K G N D E A W E M G N I V H T L  
AACAAACAGAAGTGCCCGGAAAAGTGTGTACTTATGCTGAAGTCACGATCAAGCACCTGGTTGGAGACAAGACTATTGCATTCCTGGTT 1170  
T N R R W P E K C V T Y A E S H D Q A L V G D K T I A F W L  
GATGGACAAGGATATGATGATTTTCATGGCTCTGAACGGACCTTCGACACCTAGTATTGATCGTGGAAATAGCACCTGCATAAAATGATTAG 1260  
M D K D M Y D F M A L N G P S T P S I D R G I A L H K M I R  
ACTTATCACAATGGGTTTAGGAGGAGGGTTATCTTAACITTTATGGGAAATGAGTICGGGCATCCTGAATGGATAGACTTCCAAGAGG 1350  
L I T M G L G G E G Y L N F M G N E F G H P E W I D F P R G  
CCCACAAGTACTTCCAACITGGTAAGTTCAITCCCAGGAAACAACAACAGTTACGACAAAATGCCGTGGAAGATTGACCAGGGTGATGCAGA 1440  
P Q V L P T G K F I P G N N N S Y D K C R R R F D Q G D A E  
ATTTCTTAGGTATCATGGTATGCAGCAGTTTGATCAGGCGATGCAGCATCTTGAGGAAAAATATGGCTTTATGACATCAGACCACCAGTA 1530  
F L R Y H G M Q Q F D Q A M Q H L E E K Y G F M T S D H Q Y  
CGTATCTCGGAAACATGAGGAAGATAAGGIGATCGTGTGTTGAAAAAGGGGACTTGGTATTGTGTTCAACTCCACTGGAGTAATAGCTA 1620  
V S R K H E E D K V I V F E K G D L V F V F N F H W S N S Y

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[illegible]

Fig. 11(i).

[illegible]



Fig. 11(ii).

601  
574  
101  
901

HGSKVKFRFDTPTSGVWVDSIPAWIKYAVQTAGEIGAPYDGIHYDPPSEEEK

Majority

260270280290300

HN  
HN  
HGSR  
HGSR

SKVKFRFRH-H  
SKVKFRFRH  
RVKVRMDTPSGGI-K  
RVKVRMDTPSGGV-K

GVWVEQIPAWIRYATVTA  
VVDVRVPAWIRYATFD  
VDSIPAWIKYSVQTPGDI-  
VDSISAWIKFSVQAPEGI-

SESGAPYDGLHW  
ASKFGAPYDGVHWD  
PYNGIYYDPPSEEEK  
PFNGIYYDPPSEEEK

TASBE1D2  
TASBEI  
OsbeII-1ALL  
Wheat SBEII-2

748  
724  
242  
1042

YVFKHPPQPKKPPDSLRIYEAHVGMSGPEPEINTYAEFRDEVLPRIKALGYN

Majority

310320330340350

YVF  
YVF  
YVF  
YVF

NHPRPPKPPDVPR  
KHPRPPKPPDAPR  
KHPRPPKPPKSLRIRIYET  
QHPRPPKPPESLRIYESH

IYEAHVGVSGGKLEAG  
IYEAHVGMSGGEKPEV  
IYETHVGMSSPPEPKIN  
IYESHIGMSSPPEKINS

TYREFP  
TYREFA  
TYANFR  
TYSYANFR

DNVLPCLRA  
DNVLPCLRA  
DEVLPRIKRLGYN  
DEVLPRIKRLGYN

TASBE1D2  
TASBEI  
OsbeII-1ALL  
Wheat SBEII-2

898  
874  
392  
1192

AVQLMAIQEHSSYYASFSGYHVNTNFFAVSSRSSGTPEDLKSLIDKAHSLGLRV

Majority

360370380390400

TVQ  
TVQ  
AVQ  
AVQ

LMGIM  
LMGIM  
IMAIQEHSYYG  
IMAIQEHSYYA

EHSDSAS  
EHSDSAS  
FGYHVTNFFAV  
FGYHVTNFFAV

SSRS  
SSRS  
SSRFG  
SSRFG

SGTPEDLKSLIDKAHSLGLRV  
SGTPEDLKSLIDKAHSLGLRV  
PEDLKSLIDKAHSLGLRV  
TPEDLKSLIDKAHSLGLRV

TASBE1D2  
TASBEI  
OsbeII-1ALL  
Wheat SBEII-2

1048  
1024  
542  
1342

LMDVVHSHASNNTLDGLNGFDVGQGTDTSYFHGGXRGHKKMWDSRRLFNYG

Majority

410420430440450

LMD  
LMD  
LMD  
LMD

VHSHASN  
VHSHASN  
VHSHASN  
VHSHASN

NI  
NI  
NI  
NI

DGLNGYDV  
DGLNGYDV  
DGLNGYDV  
DGLNGYDV

GQSAHE  
GQSAHE  
GQSAHE  
GQSAHE

SGTPEDLKSLIDKAHSLGLRV  
SGTPEDLKSLIDKAHSLGLRV  
SGTPEDLKSLIDKAHSLGLRV  
SGTPEDLKSLIDKAHSLGLRV

TASBE1D2  
TASBEI  
OsbeII-1ALL  
Wheat SBEII-2

1198  
1174  
683  
1483

NWEVLRFLLSNARYWLDDEFKFDGFRFDGVTSMMLYTHHGLNMSFTGSYKEY

Majority

460470480490500

NWE  
NWE  
NK  
SWE

VLRFLLSN  
VLRFLLSN  
VLRFLLSN  
VLRFLLSN

LR  
LR  
LR  
LR

YWMDE  
YWMDE  
YWMDE  
YWMDE

FMDGGRFV  
FMDGGRFV  
FMDGGRFV  
FMDGGRFV

GV  
GV  
GV  
GV

TSMLY  
TSMLY  
TSMLY  
TSMLY

THHGL  
THHGL  
THHGL  
THHGL

NMSFTGSYKEY  
NMSFTGSYKEY  
NMSFTGSYKEY  
NMSFTGSYKEY

TASBE1D2  
TASBEI  
OsbeII-1ALL  
Wheat SBEII-2

Fig. 11(iii).

	F	G	L	A	T	O	V	D	A	V	V	Y	L	M	L	A	N	D	L	I	H	G	L	X	P	E	A	V	V	V	G	E	D	V	S	G	M	P	V	L	C	X	P	V	D	E	G	G	V	G	Majority			
	510	520	530	540	550																																																	
11348	I	G	L	D	T	N	V	D	A	F	V	Y	M	L	A	N	H	L	M	H	K	L	F	P	E	A	I	V	V	A	V	D	V	S	G	M	P	V	L	C	W	P	V	D	E	G	G	L	G	TASBE1D2				
11324	F	G	L	D	T	D	V	D	A	V	V	Y	L	M	L	A	N	H	L	M	H	K	L	L	P	E	A	T	V	V	A	E	D	V	S	G	M	P	V	L	C	R	S	V	D	E	G	G	V	G	TASBEI			
8833	F	G	F	A	T	D	V	D	A	V	V	Y	L	M	L	M	N	D	L	I	H	G	F	Y	P	E	A	V	T	I	G	E	D	V	S	G	M	P	T	F	A	L	P	V	Q	V	G	G	V	G	OsbeII-1ALL			
16333	F	G	F	A	T	D	V	D	A	V	V	Y	L	M	L	V	N	D	L	I	H	G	L	H	P	O	A	V	S	I	G	E	D	V	S	G	M	P	T	F	C	I	P	V	P	O	G	G	V	G	Wheat SBEII-2			
	510	520	530	540	550																																																	
	F	O	Y	R	L	A	M	A	V	A	D	K	W	I	D	L	L	K	N	K	D	D	-	X	W	S	M	G	X	I	V	-	H	T	L	T	N	R	R	Y	P	E	K	C	V	A	Y	A	E	S	Majority			
	560	570	580	590	600																																																	
1498	F	D	Y	R	Q	A	M	T	I	P	D	R	W	I	D	Y	L	E	N	K	G	D	Q	Q	W	S	M	S	S	V	I	S	Q	T	L	T	N	R	R	Y	P	E	K	F	I	A	Y	A	E	R	TASBE1D2			
1474	F	D	Y	R	L	A	M	A	I	P	D	R	W	I	D	Y	L	K	N	K	D	D	L	E	W	S	M	S	G	-	I	A	H	T	L	T	N	R	R	Y	T	E	K	C	I	A	Y	A	E	S	TASBEI			
983	F	D	Y	R	L	H	M	A	V	A	D	K	W	I	E	L	L	K	G	N	D	E	-	A	W	E	M	G	N	I	V	-	H	T	L	T	N	R	R	W	P	E	K	C	V	T	Y	A	E	S	OsbeII-1ALL			
1783	L	D	Y	R	L	H	M	A	V	A	D	K	W	I	E	L	L	K	Q	S	D	E	-	S	W	K	M	G	D	I	V	-	H	T	L	T	N	R	R	W	L	E	K	C	V	T	Y	A	E	S	Wheat SBEII-2			
	610	620	630	640	650																																																	
	H	D	Q	A	L	V	G	D	K	T	I	A	F	L	L	M	D	K	D	M	Y	D	G	M	A	L	X	X	P	S	S	P	T	I	D	R	G	I	A	L	Q	K	M	I	H	L	I	T	M	G	Majority			
	610	620	630	640	650																																																	
1648	Q	N	H	S	I	I	G	S	K	T	M	A	F	L	L	M	E	W	E	T	Y	S	G	M	S	A	M	D	P	D	S	P	T	I	D	R	A	I	A	L	Q	K	M	I	H	F	I	T	M	A	TASBE1D2			
1621	H	D	Q	S	I	V	G	D	K	T	M	A	F	L	L	M	D	K	E	M	Y	T	G	M	S	D	L	Q	P	A	S	P	T	I	D	R	G	I	A	L	Q	K	M	I	H	F	I	T	M	A	TASBEI			
1127	H	D	Q	A	L	V	G	D	K	T	I	A	F	W	L	M	D	K	D	M	Y	D	F	M	A	L	N	G	P	S	T	P	S	I	D	R	G	I	A	L	H	K	M	I	R	L	I	T	M	G	OsbeII-1ALL			
1927	H	D	Q	A	L	V	G	D	K	T	I	A	F	W	L	M	D	K	D	M	Y	D	F	M	A	L	D	R	P	S	T	P	R	I	D	R	G	I	A	L	H	K	M	I	R	L	V	T	M	G	Wheat SBEII-2			
	660	670	680	690	700																																																	
	L	G	G	D	G	Y	L	N	F	M	G	N	E	F	G	H	P	E	W	I	D	F	P	R	G	P	Q	-	L	P	T	G	K	-	-	P	G	N	N	N	S	Y	D	K	C	R	R	R	F	D	Majority			
	660	670	680	690	700																																																	
1798	F	G	G	D	S	Y	L	K	F	M	G	N	E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TASBE1D2				
1771	L	G	G	D	G	Y	L	N	F	M	G	N	E	F	G	H	P	E	W	I	D	F	P	R	E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TASBEI		
1277	L	G	G	E	G	Y	L	N	F	M	G	N	E	F	G	H	P	E	W	I	D	F	P	R	G	P	Q	V	L	P	T	G	K	F	I	P	G	N	N	N	S	Y	D	K	C	R	R	R	F	D	OsbeII-1ALL			
2077	L	G	G	E	G	Y	L	N	F	M	G	N	E	F	G	H	P	E	W	I	D	F	P	R	G	P	O	T	L	P	T	G	K	V	L	P	G	N	N	N	S	Y	D	K	C	R	R	R	F	D	Wheat SBEII-2			
	710	720	730	740	750																																																	
	L	G	D	A	D	F	L	R	Y	H	G	M	N	A	F	D	Q	A	M	Q	H	L	E	D	K	Y	G	F	L	S	S	S	H	Q	Y	V	S	R	K	N	E	E	D	K	V	I	V	F	E	K	Majority			
	710	720	730	740	750																																																	
1837	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TASBE1D2
1888	L	A	D	I	D	H	L	R	Y	K	Y	M	N	A	F	V	Q	A	V	D	T	P	S	D	K	C	S	F	L	S	S	S	N	Q	T	A	S	H	M	N	E	E	E	K	G	S	A	L	T	K	TASBEI			
1427	Q	G	D	A	E	F	L	R	Y	H	G	M	Q	Q	F	D	Q	A	M	Q	H	L	E	E	K	Y	G	F	M	T	S	D	H	Q	Y	V	S	R	K	H	E	E	D	K	V	I	V	F	F	E	K	OsbeII-1ALL		
2227	L	G	D	A	D	F	L	R	Y	H	G	M	Q	Q	E	F	D	Q	A	M	Q	H	L	E	E	K	Y	G	F	M	T	S	E	H	O	Y	V	S	R	K	H	E	E	D	K	V	I	I	F	F	E	R	Wheat SBEII-2	

Fig. 11(iv).

	G D L V F V F N F H W S N S Y F D Y R V G C X X P G K Y K V A L D S D A X L F G G F G R X X H D X D	Majority
1957	G - - - - - Y T H L R S G C - - - - -	TASBE1D2
2038	G D L V F V F N F H P S K T Y D G Y K V G C - - - - -	TASBEI
1577	G D L V F V F N F H W S N S Y F D Y R V G C - - - - -	OsbeII-1ALL
2377	G D L V F V F N F H W S N S F F D Y R V G C - - - - -	Wheat SBEII-2
	H F T S - - - - - E X X H D N R P X S F S V L T P S R T C V V Y - - - - - A - - - - P - X E X A	Majority
1984	- F D P S - - - - - L P S T S S C A - - - - -	TASBE1D2
2188	H F T S P E G V P G V P E T N F N R P N S F K I L S P S R T C V A Y Y R V E E K A E K P K D E G A	TASBEI
1727	H F T S - - - - - D C Q H D N R P H S F S V Y T P S R T C V V Y - - - - - A - - - - P M N - . T	OsbeII-1ALL
2527	Y F T T - - - - - E H P H D N R P R S F S V Y T P S R T A V V Y - - - - - A L T E - . E P A	Wheat SBEII-2
	A X - - - - - V - - - - T - - - - K - - - - X Y X X X X X L X R X X G - - - - - X X X X - - - - X X - -	Majority
2020	- - - - - A S W G K T A L G Y I D V E A T G V K D A A D G E A T S G S E K A S T G G - - - - - D S S K K G I N F V	TASBE1D2
2338	- - - - - A K C S I - - - - - R M H A V V A S T S K K S Y G Q Y N Q V Q G L I R V C F N E S W I D K T - - - - - T . . C	OsbeII-1ALL
1826	- - - - - A A - - - - - - - - - - - - - - - C Y K A K R E L Q R A R G - S . A K R R A T A R G - - - - -	Wheat SBEII-2
2632	- - - - - F L X P X X X X X - X X X X X - L - X X X X X X P X X X X X - - - - - G G - X X X X - - - - -	Majority
	910 920 930 940 950	
2020	F L G P - - - - - S N Q S P F S K - - - - - P F I G F P G C I F C C G L - - - - -	TASBE1D2
2479	F L S P D K D N K - . A P Y Q R L I R T V C R R P C N T P A I A S S S N T V K L C G L E I L A W T L	TASBEI
1964	A L C S Q I P R A L W R K N A H L C Y F M D Q G R N L P Q K P L F F L - - - - - K G G . A P G - - I	OsbeII-1ALL
2710	- - - - - C S K R H - - - - - - - - - - D W E G I V P L P Q - - - - - M P G - - - - - G A - D G . V - - - -	Wheat SBEII-2
	X - X - X X X X X X X X A V X X - X X X S X X - - - - - X X X X I L - - - - - X L X X X X I I X X X - -	Majority
	960 970 980 990 1000	
2098	- - - - - F K G E - . M I I - - - - - Y P Y - - - - - M G V G I - - - - - K V D D I R H - I - -	TASBE1D2
2626	L R L P T - I . K - D K . A V M V R V E S Y M C Q I C A I P S - P L S . R K F R A - S I P E . K Q	TASBEI
2093	C - I - W M P P . I F V - A I N H - C . C P I N - - - - - Q F R I E V - I L - L Y F I F - D S . -	OsbeII-1ALL
2782	A C W . A L E R K W T G L G V C R A A L P S S Y - - - - - L A H S R L - - - - - F L Y I . L I I A R A - - -	Wheat SBEII-2

09786480701  
09786480701

Fig. 11(v).

[illegible]

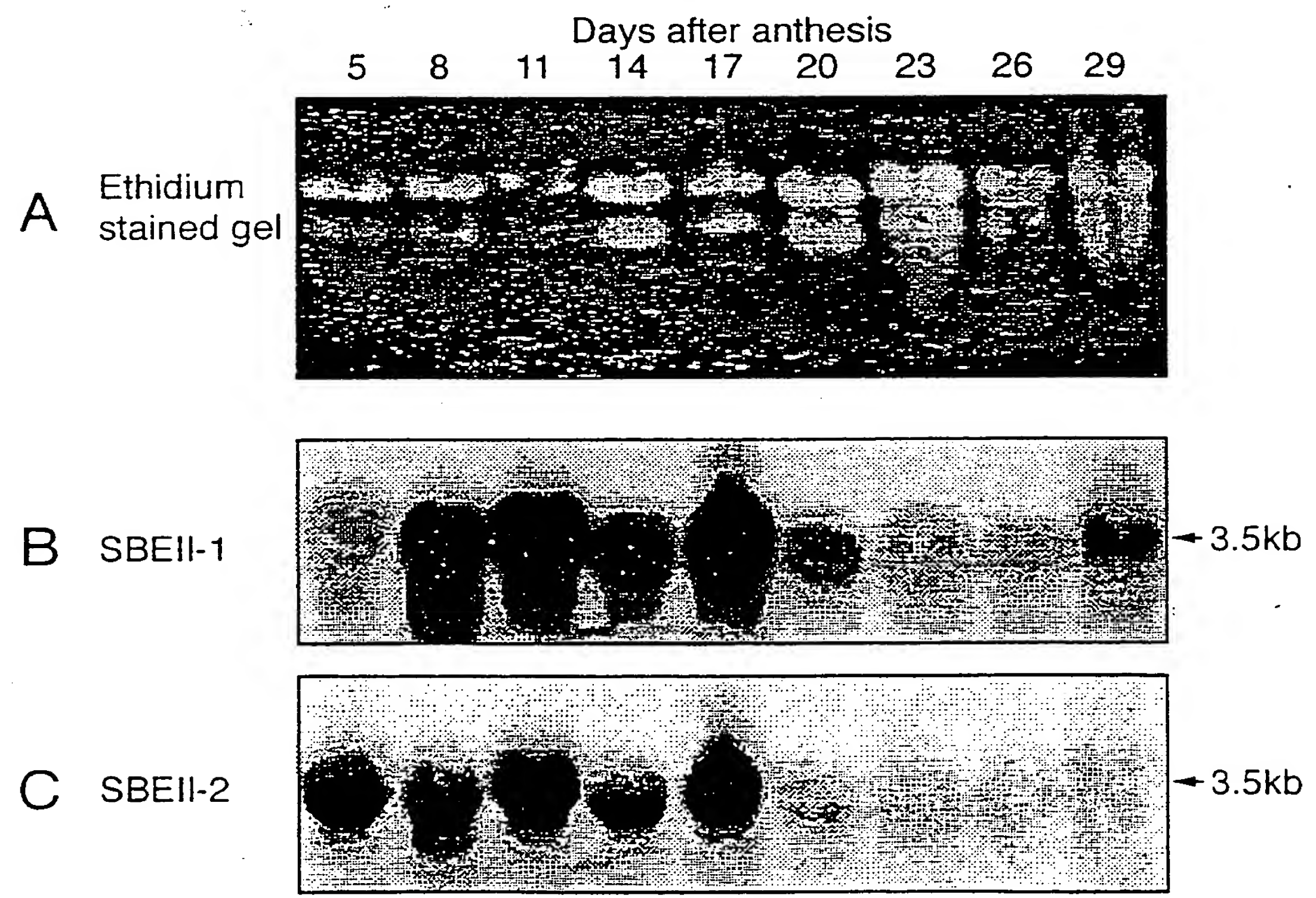
Decoration 'Decoration #1': Shade (with solid black) residues that match the Consensus exactly.



Fig.11A.

		Percent Similarity						
Percent Divergence		1	2	3	4			
	1		63.9	31.2	37.0	1	TASBE1D2	
	2	39.1		46.7	41.8	2	TASBEI	
	3	86.9	73.8		69.6	3	sbell-1ALL	
	4	94.5	76.4	25.3		4	Wheat SBEII-2	
		1	2	3	4			

Fig.12.



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Fig.13.

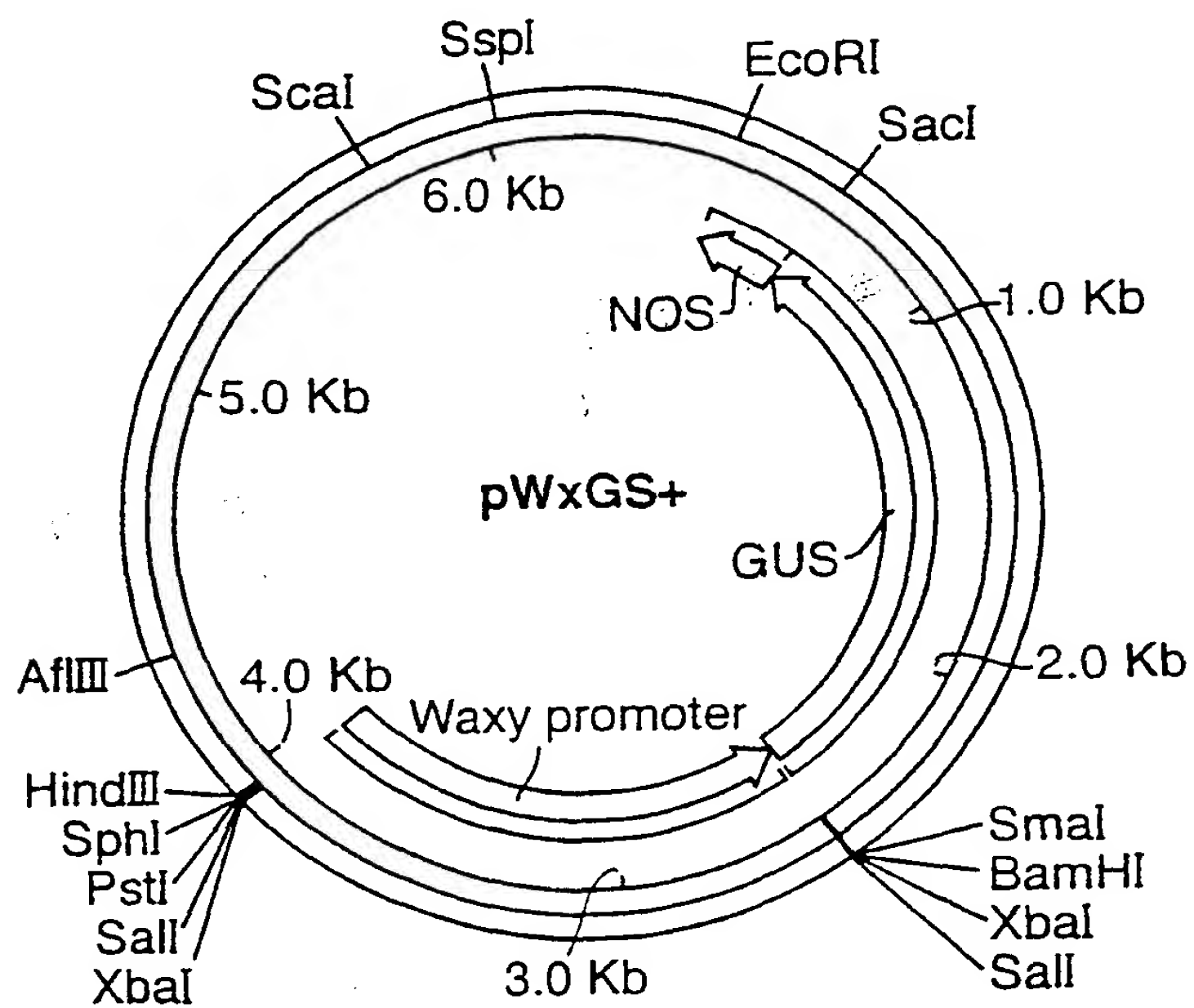


Fig.13A.

10 20 30 40 50 60 70  
AAGCTTGCAATGCCCTGCAGGTCGACTCTAGACCAAAATTTCATGGTAGTTGGGAGCCTACCCAGATTTCATG 70  
ATTAACCTGTGCTATTGAATTGTTGAAATGGTTGTCTGTCTGTATCCGACGGATAACGGAAACCCGTCC 140  
GAAATTCAATGGGCATGGGCATAGATATAGATTTGTACCCACTACTAGTATGGTCGCAGCGGATATTGG 210  
TTGCAACCGCAGATATAGTTTCGGGAAAGGATTAGGCTCAGCTCCATCCCTAGACCCCACTTGTGTGT 280  
GTGGGGGGTCTACCCCTTCAAAAGGAAAAAACTACACACAGTGCATATAAGAAAGATGAATATTCCAAA 350

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360 370 380 390 400 410 420  
ATTCAGCAGTCAAGAAGCCCTGATAAACTGTCTGGCATAGCTAGTACTTTATACACTTCAAGACCAAAAG 420  
AAATCACTAAGTACAGATTTTAGTGACTCGTAAGTACAGATATCATCTTACAAGGCCCAAGCCAGCGACC 490  
TATTACACAGCCCGCTCGGGCCCGGACGTCGGGACACATCTTCTCCCTTTTGGTGAAGCTCTGCTC 560  
GCAGCTGTCCGGCTGCTTGGACGTTCCGTGTGGCAGATTCACTCTGCTCCTGCTCCTGCTTCCCTGGG 630  
TAGCTTGTGCAGTGGAGCTGACATGGTCTGAGCAGGCTTAAAAATTTGCTCGTAGACGAGGAGTACCAGCA 700

710 720 730 740 750 760 770  
CAGCACGTTGCGGATTCTCTGCCCTGTGAAGTGCAACGCTCTAGGATTGTCAACACGCCCTTGGTCGCGTCGA 770  
TGCGGTGTTGAGCAGACAGCAACAGCTGGGCGGCCCAAGTTGGCTTCCGTGCTTCCGTACGTACG 840  
CGCGCGCCGGGACACGCAGAGAGCGGAGAGCCGTGCACGGGGAGGTGGTGTGCAAGTGACGCCG 910  
CGCGCCCGCGCCCGGTGGGCAACCCAAAGTACCCACGACAGCGAAGCGGCCCAAGCGGATCC 980  
AAGCTCCGGAACGCATCAGCCACAGCCGAGAACCGGAGCGGCGACGCTCGTGGGACGGACG 1050

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Fig.13A(Cont).

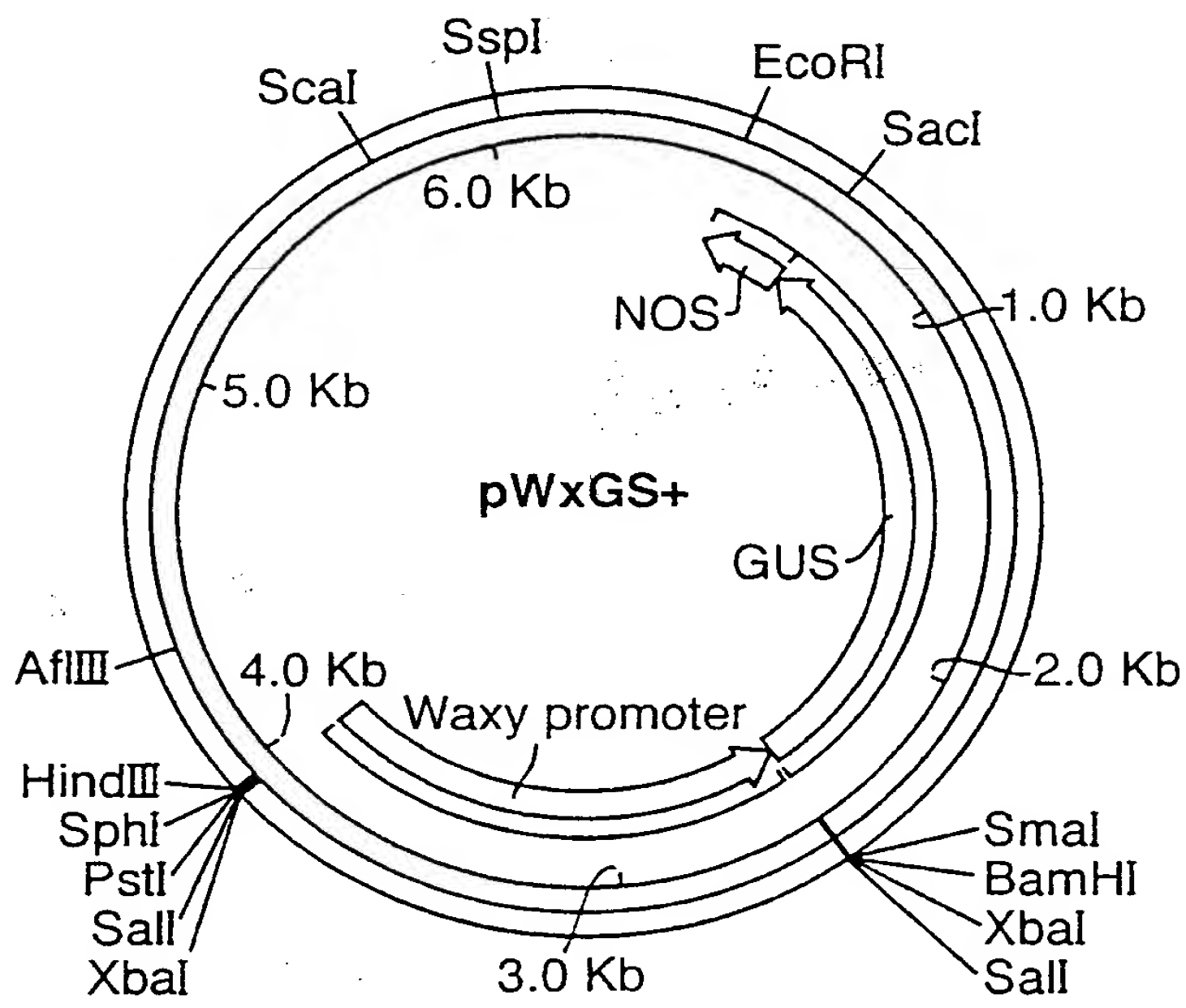
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1060      1070      1080      1090      1100      1110      1120
CGGGCGACGCTTCCAAACGGGGCCACGTACGCCGGGTGTGCGTGCAGACGACAAGCCAAGG 1120
CGAGGCAGCCCCCGATCGGGAAGCGTTTGGGCGCGAGCGCTGGCGTGCAGTCAGTGGTGCGCA 1190
GTGCCGGGGGAACGGGTATCGTGGGGCGCGGAGAGCGTGCGGAGGCCGAGAGCAGCGCGCG 1260
GCCGGGTCACGCAACGCGCCCCACGTACTGCCCTCCCCCTCCGCGCTAGAAATACCGAGGCTGGA 1330
CCGGGGCCCCCGTCACATCCATCCATCGACCCGATCGATCGCCACAGCCAACACCCGCGAGGCG 1400

1410      1420      1430      1440      1450      1460      1470
ACGCGACAGCCGCCAGGAGGAATAAACTCACTGCCAGCCAGTGAAGGGGAGAGTGTACTGCTCC 1470
GTCGACTCTAGAGGATCC 1488      (SEQ ID NO: 55)
```



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Fig.13.



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Fig.14.

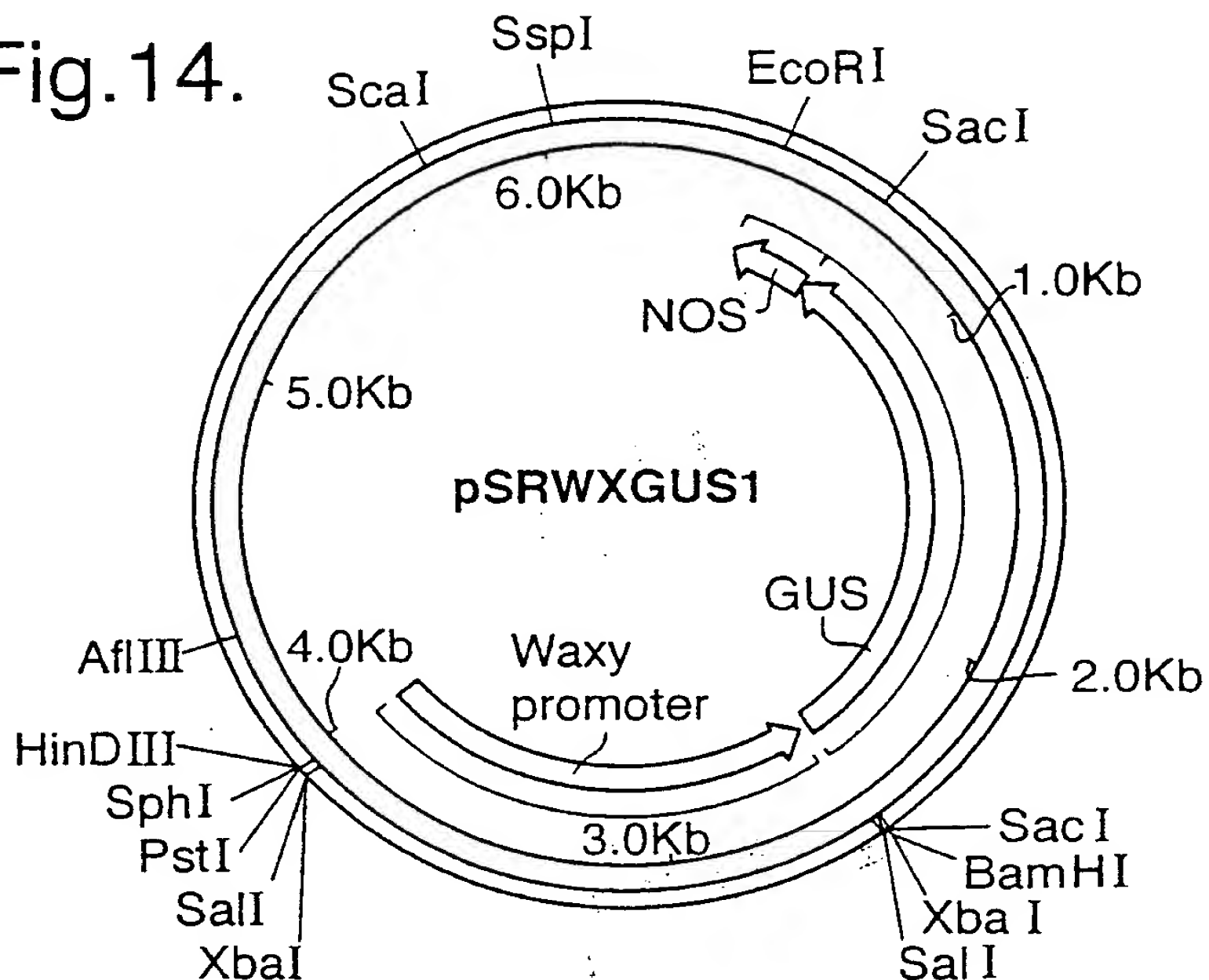


Fig.15.

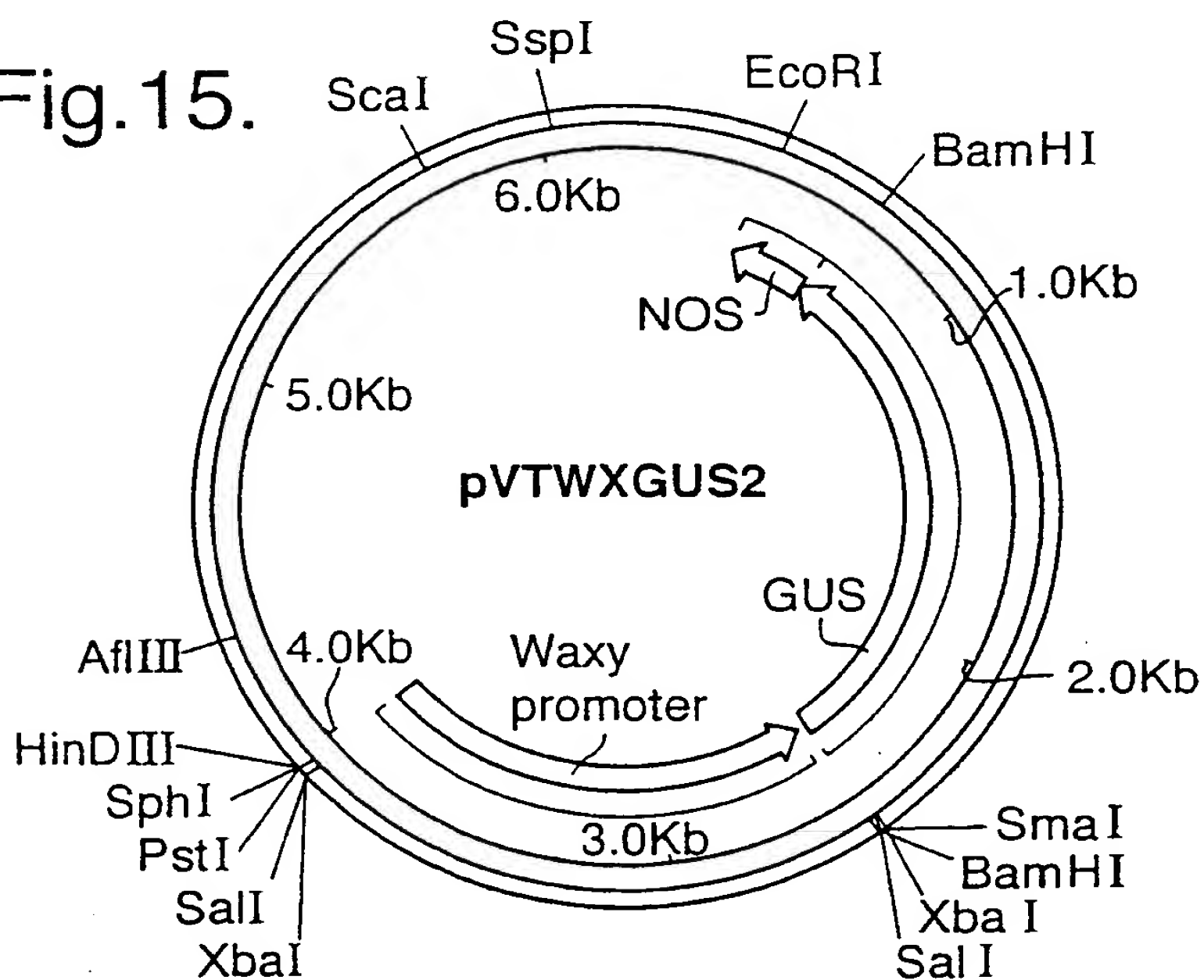


Fig.16.

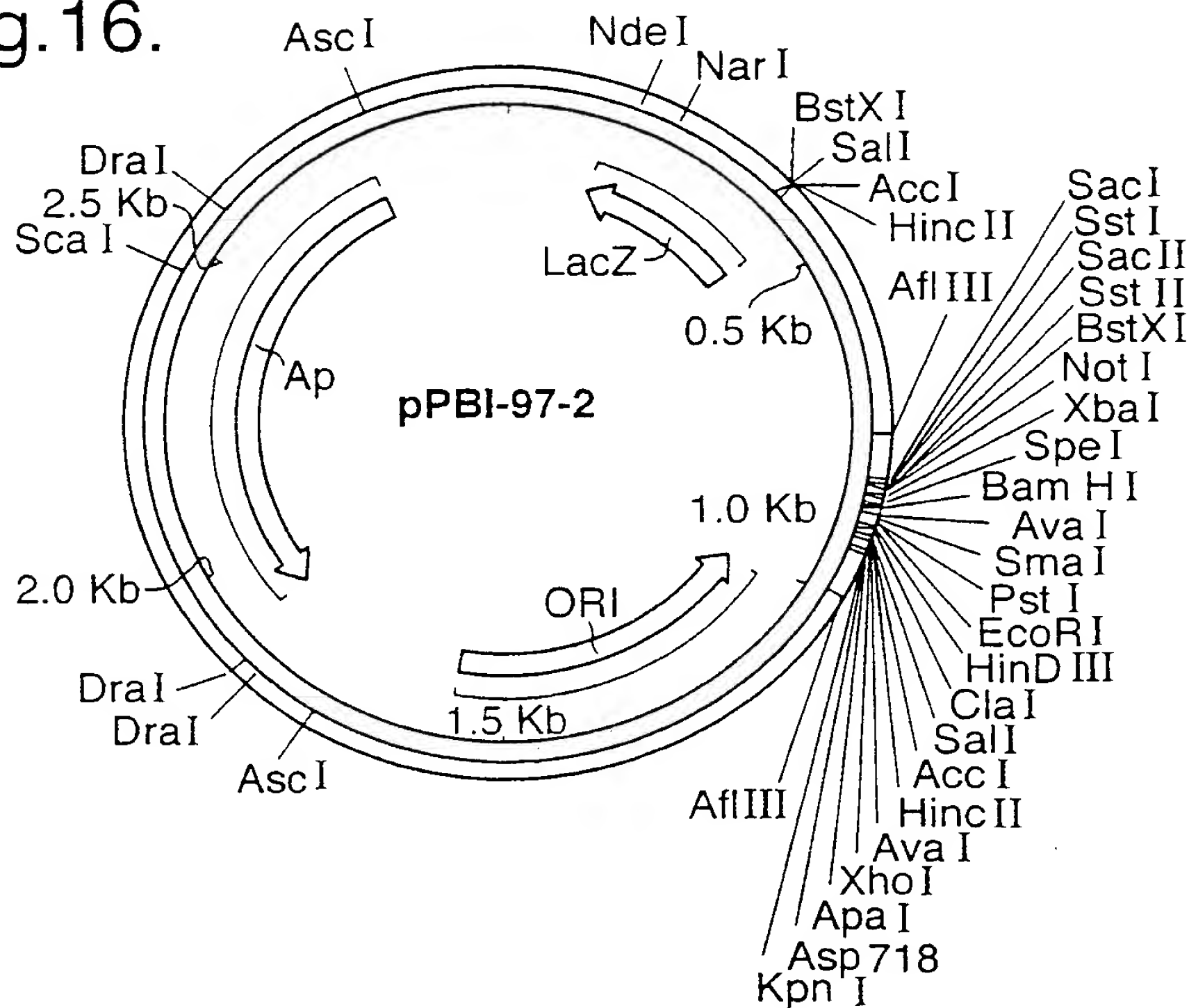


Fig.17.

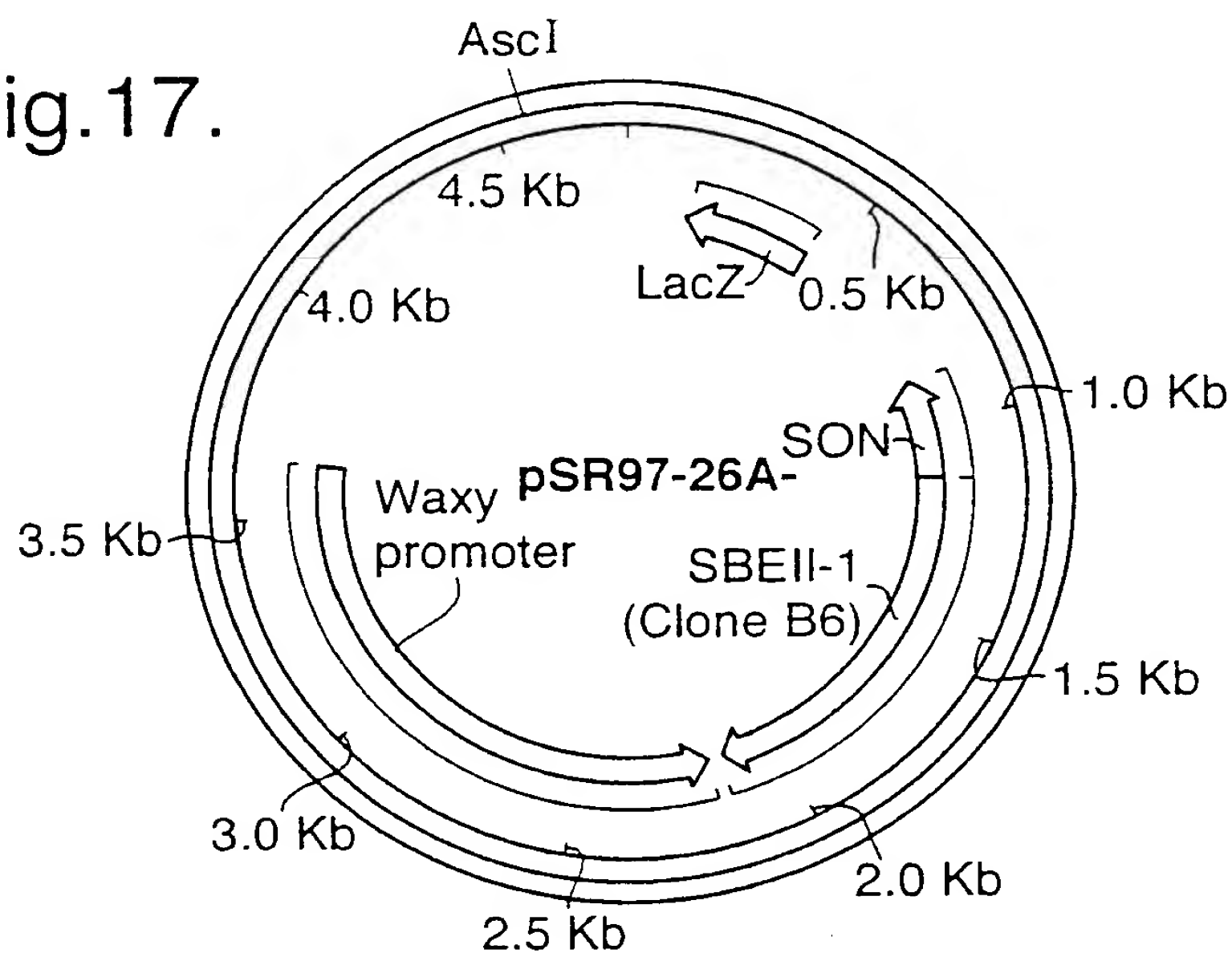


Fig.18.

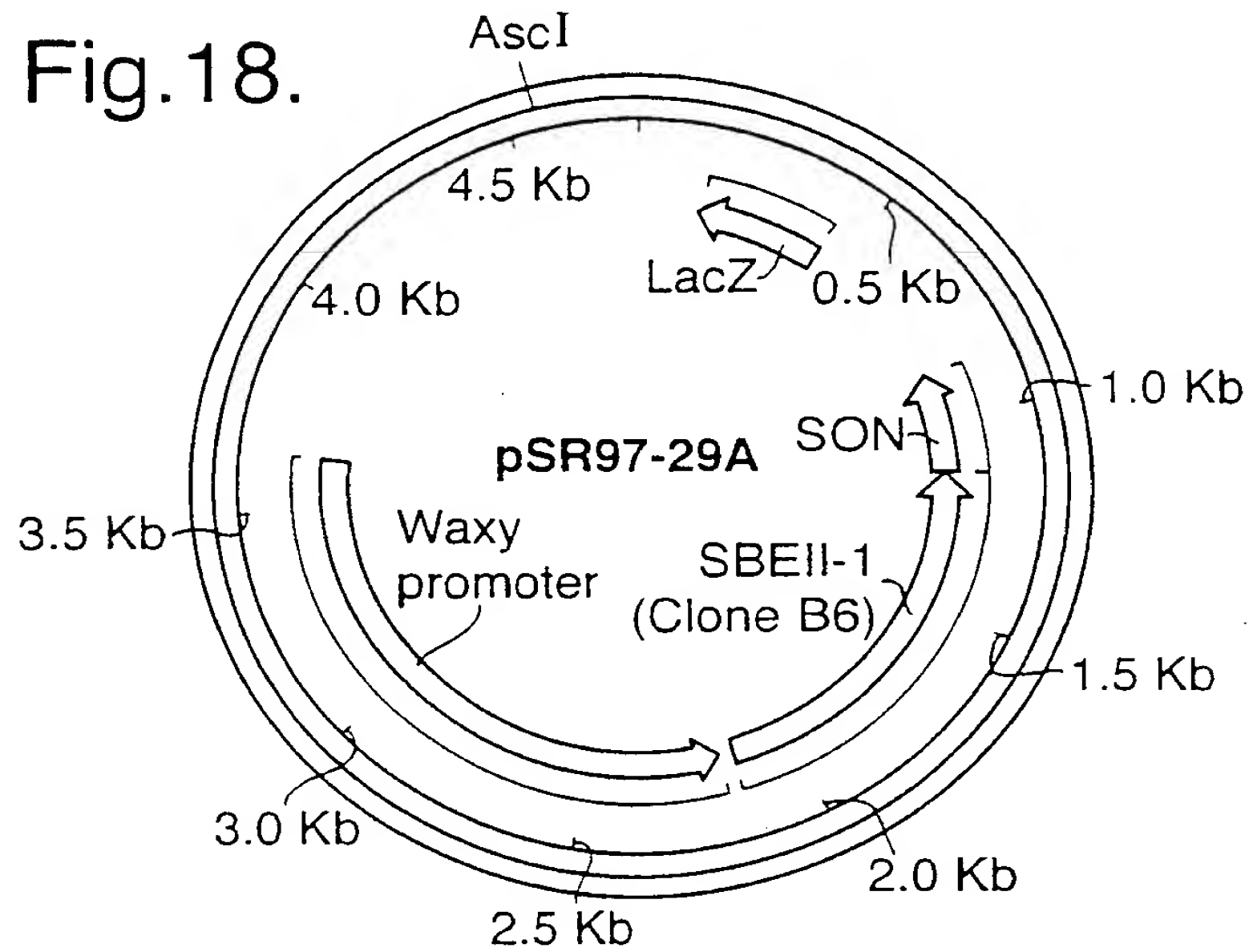


Fig.19.

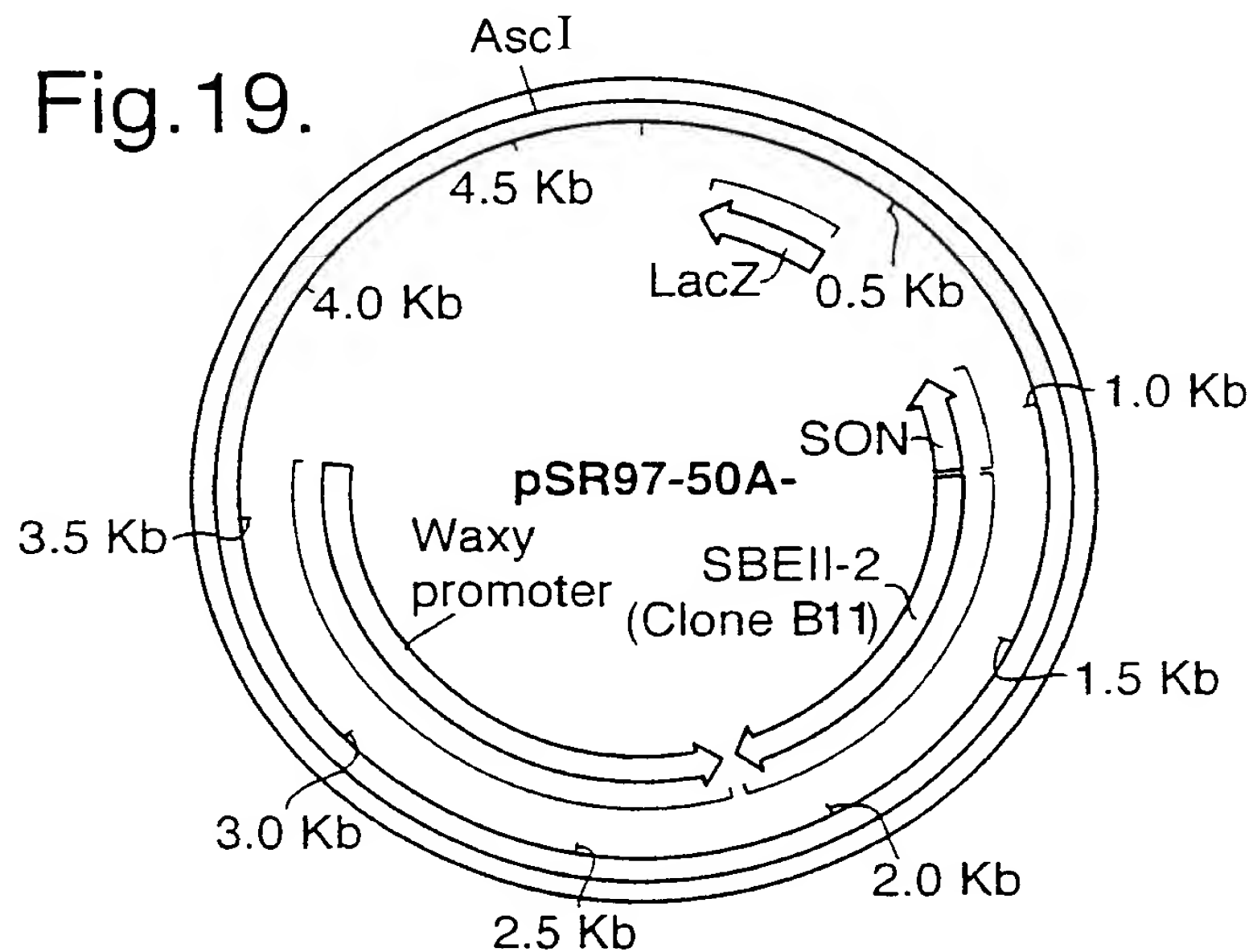


Fig.20.

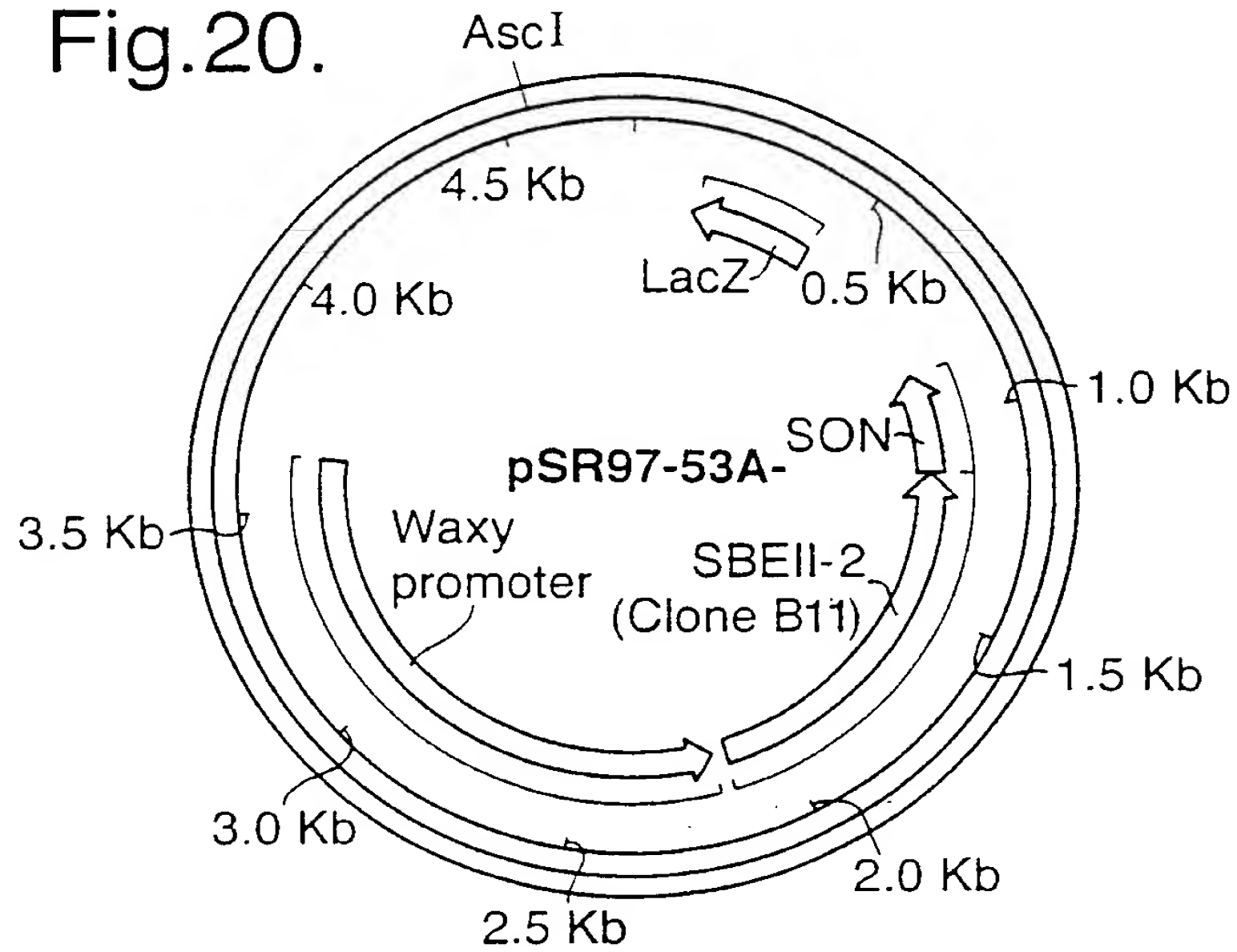


Fig.21.

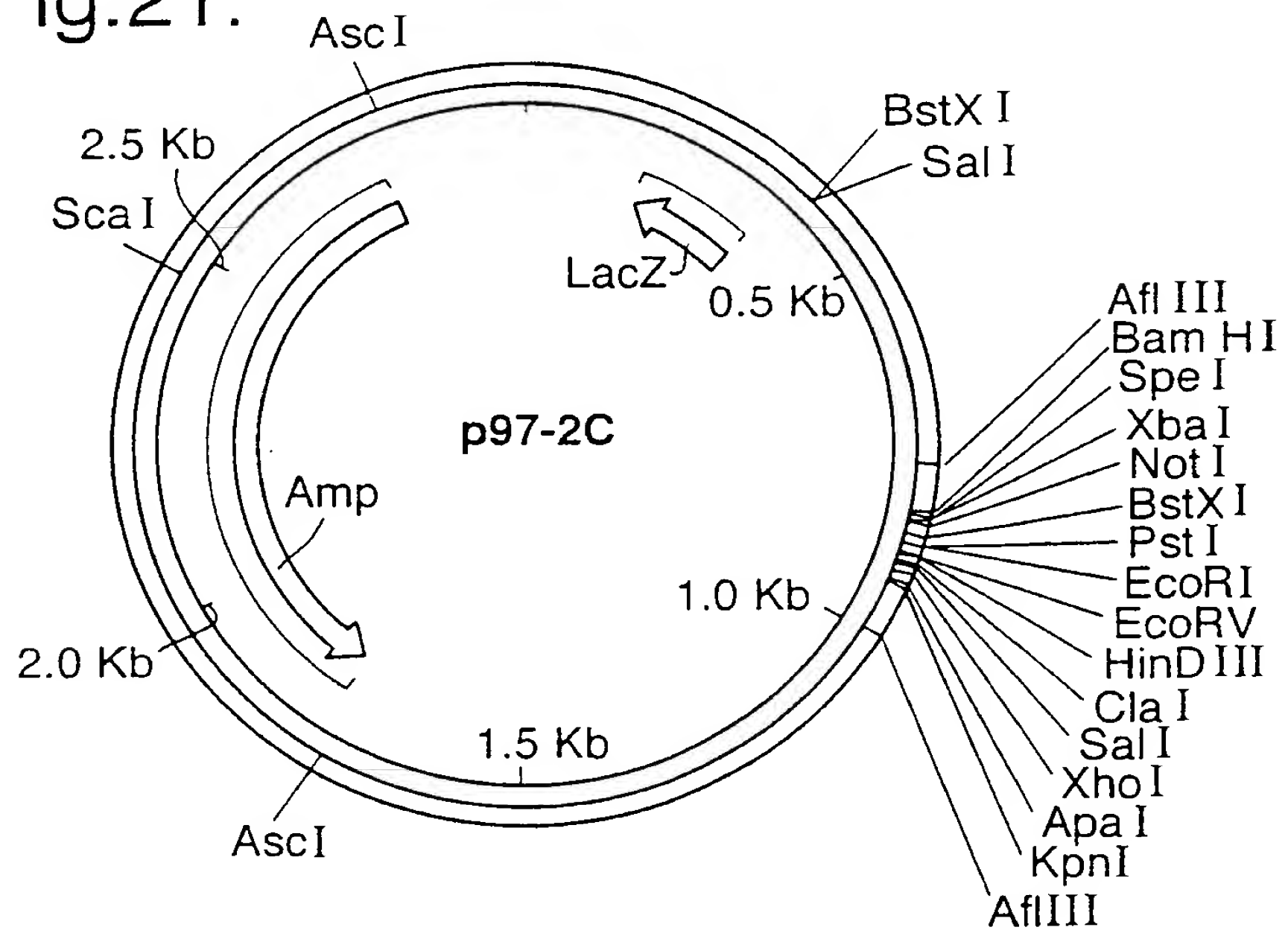




Fig.22.

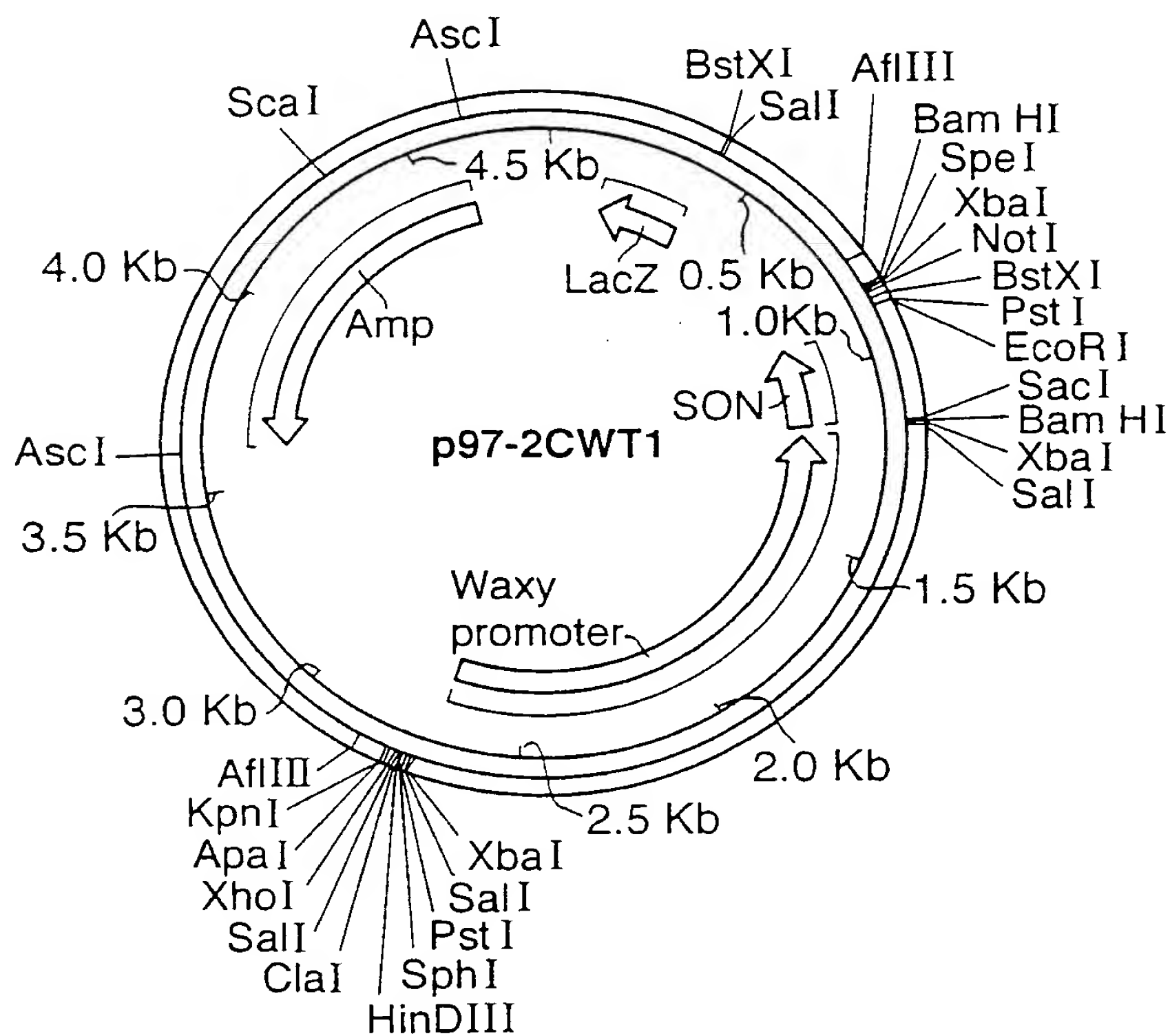


Fig.23.

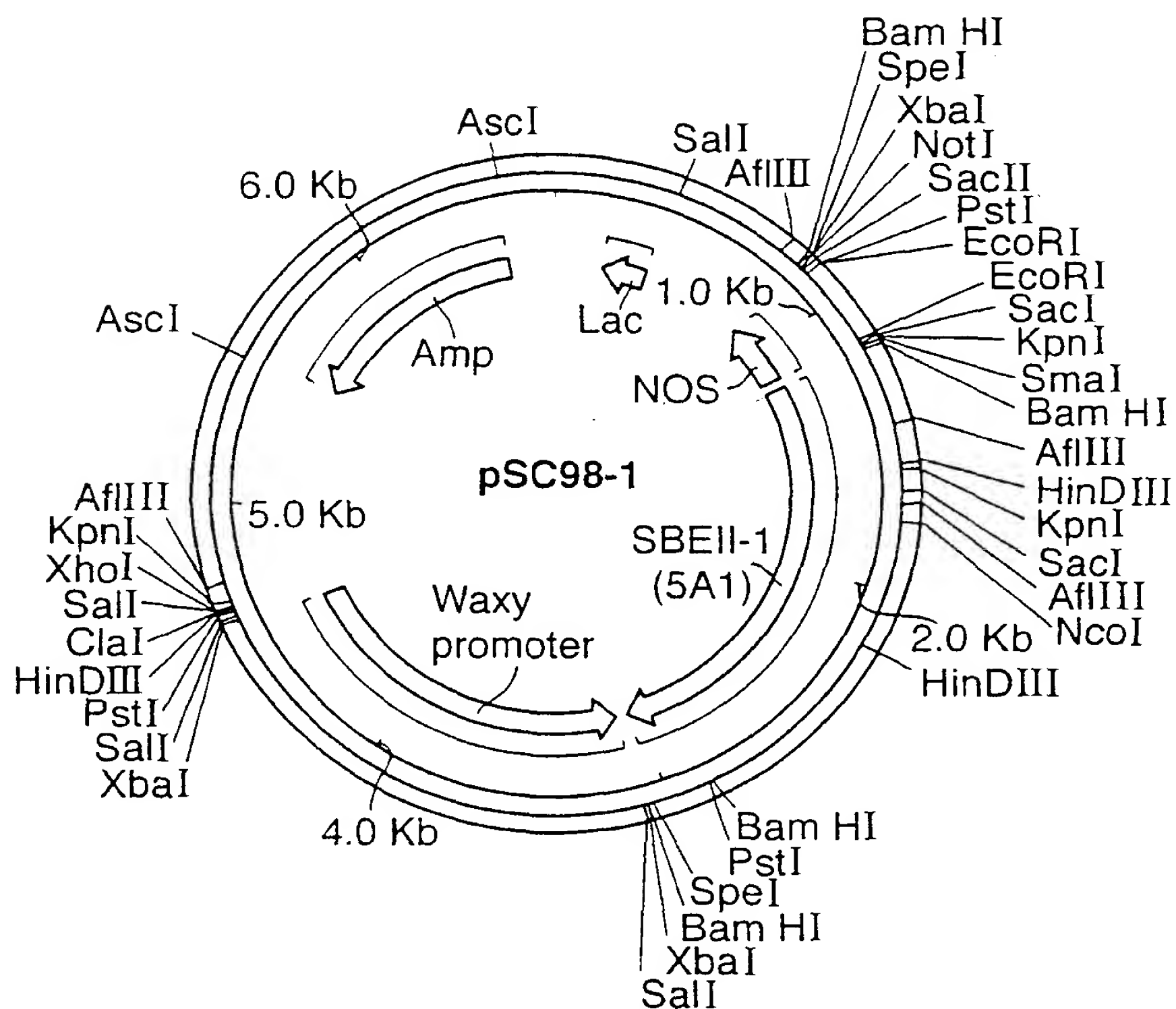


Fig.24.

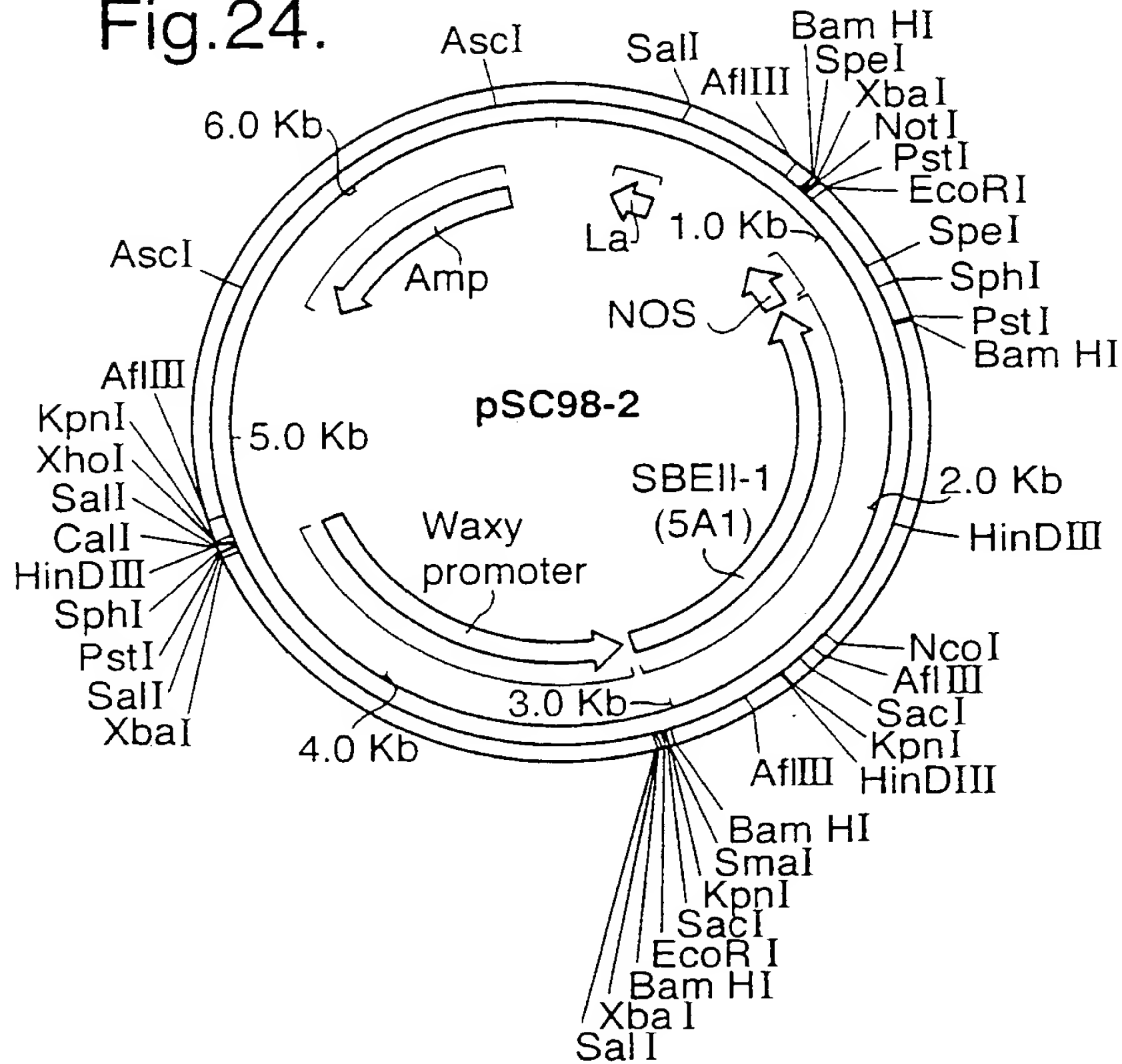


Fig.25.

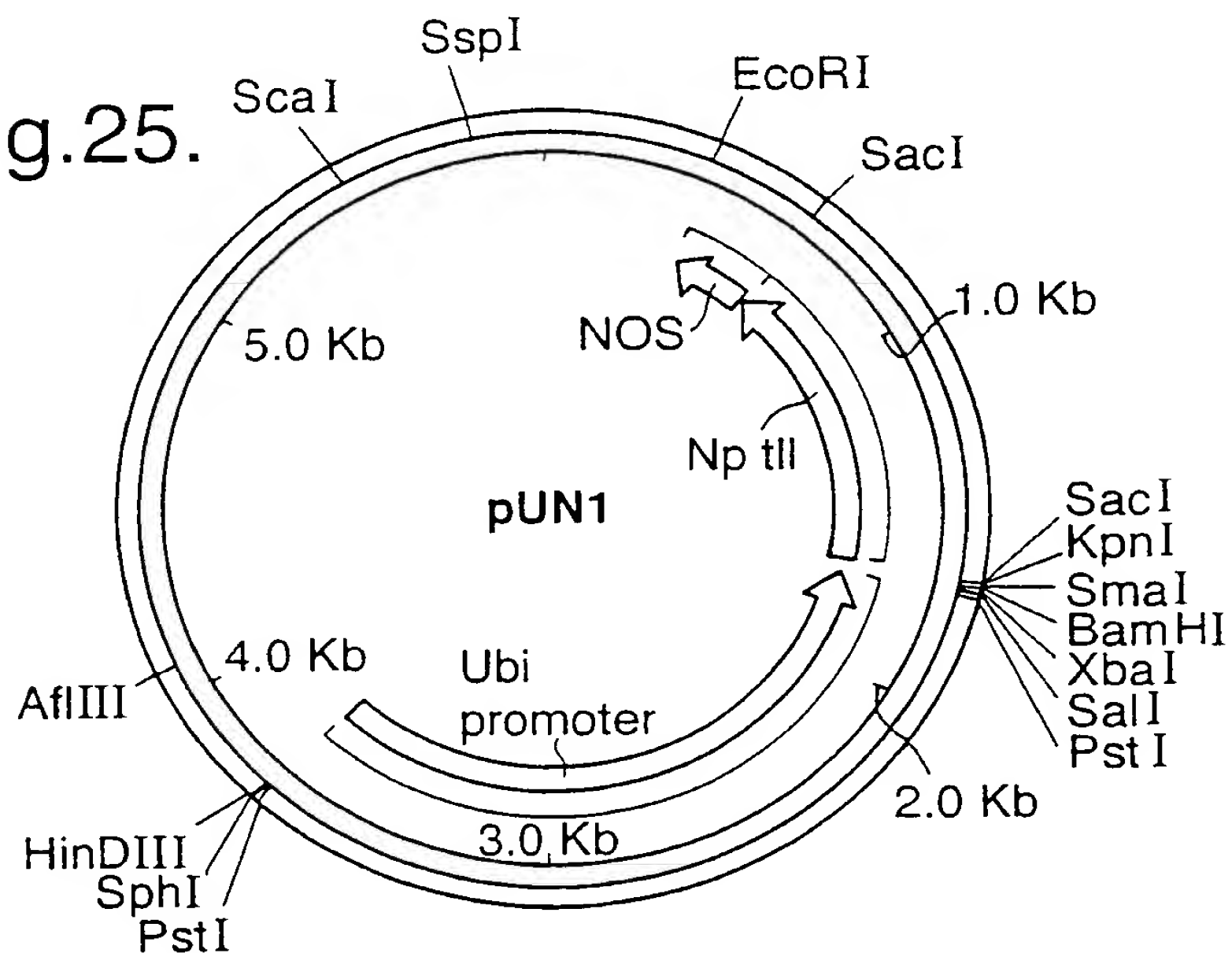


Fig.26.

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10 20 30 40 50 60
GAGCTCCGTT TCGCATGATT GAACAAGATG GATTGCACGC AGGTTCTCCG GCCGCTTGGG 60
TGGAGAGGCT ATTCGGCTAT GACTGGGCAC AACAGACAAAT CGGCTGCTCT GATGCCGCCG 120
TGTTCCGGCT GTCAGCGCAG GGGCGCCCGG TTCTTTTGT CAAGACCGAC CTGTCCGGTG 180
CCCTGAATGA ACTGCAGGAC GAGGCAGCGC GGCTATCGTG GCTGGCCACG ACGGCGGTTT 240
CTTGCGCAGC TGTGCTCGAC GTTGTCACTG AAGCGGGAAG GGAATGGCTG CTATTGGGCG 300

310 320 330 340 350 360
AAGTGCCGGG GCAGGATCTC CTGTCACTC ACCTTGCTCC TGCCGAGAAA GTATCCATCA 360
TGGCTGATGC AATGCGGCGG CTGCATACGC TTGATCCGGC TACCTGCCCA TTCGACCACC 420
AAGCGAAACA TCGCATCGAG CGAGCACGTA CTCGGATGGA AGCCGGTCTT GTCGATCAGG 480
ATGATCTGGA CGAAGAGCAT CAGGGGCTCG CGCCAGCCGA ACTGTTCGCC AGGCTCAAGG 540
CGCGCATGCC CGACGGCGAG GATCTCGTCC TGACCCCATGG CGATGCCCTG TTGCCGAATA 600

610 620 630 640 650 660
TCATGGTGGA AAATGGCCGC TTTTCTGGAT TCATCGACTG TGGCCGGCTG GGTGTGGCGG 660
ACCGCTATCA GGACATAGCG TTGGCTACCC GTGATATGCG TGAAGAGCTT GGCGGCCGAA 720
GGGCTGACCG CTTCCCTCGTG CTTTACGGTA TCGCCGCTCC CGATTGCGAG CGCATCGCCT 780
TCTATCGCCT TCTTGACGAG TTCTTCTGAG Ctc 813 (SEQ ID No :35)
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Fig.27.

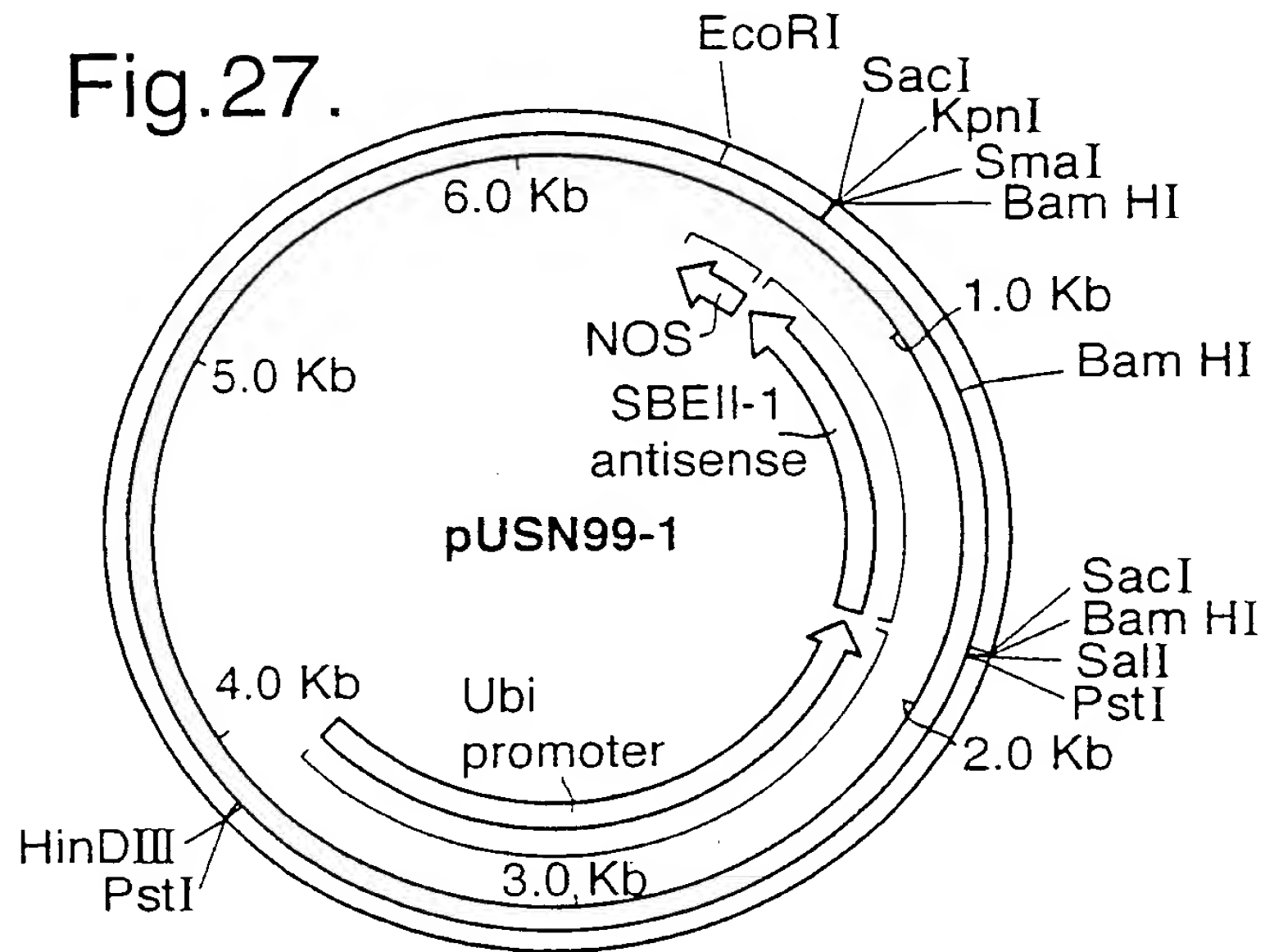
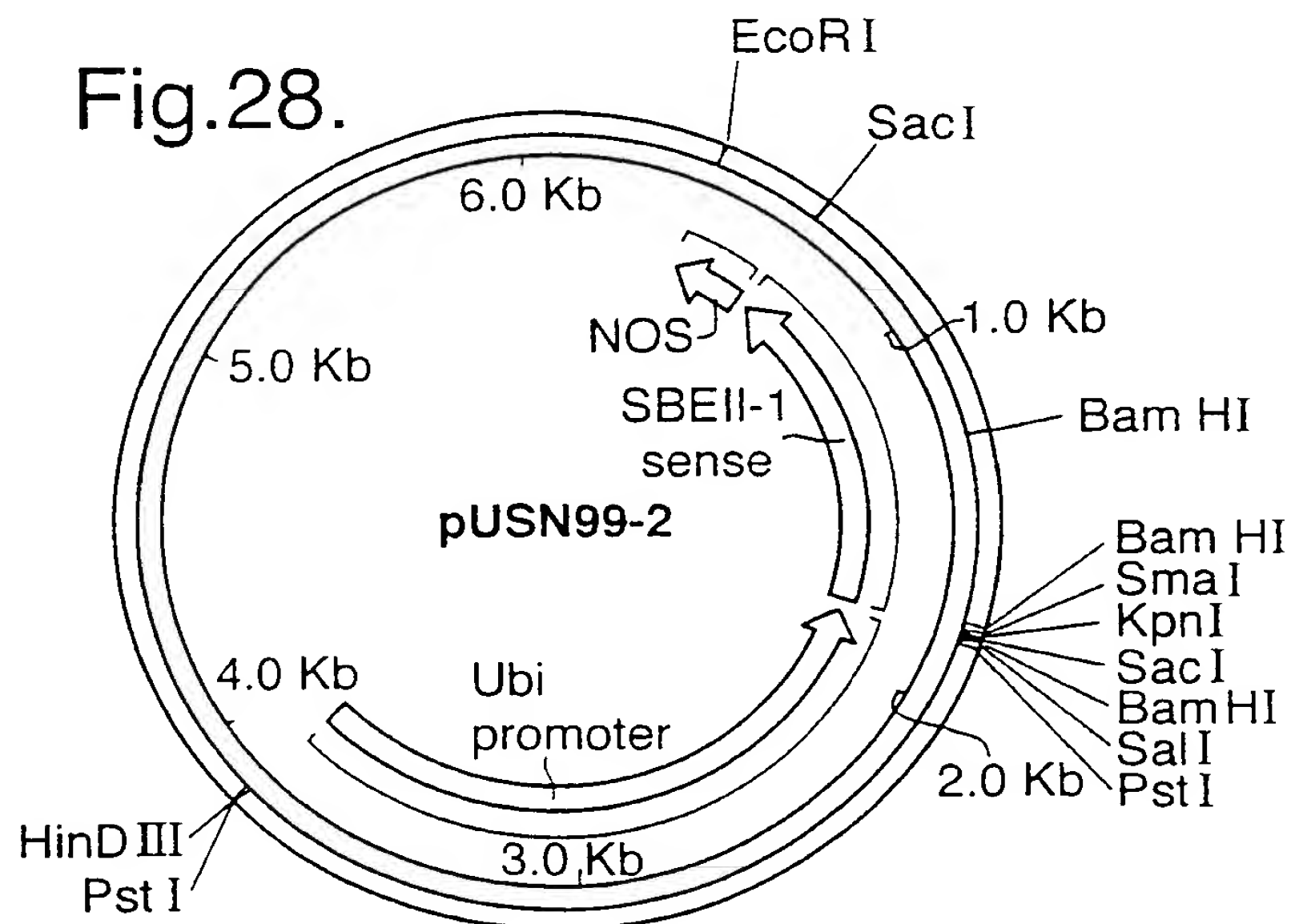


Fig.28.





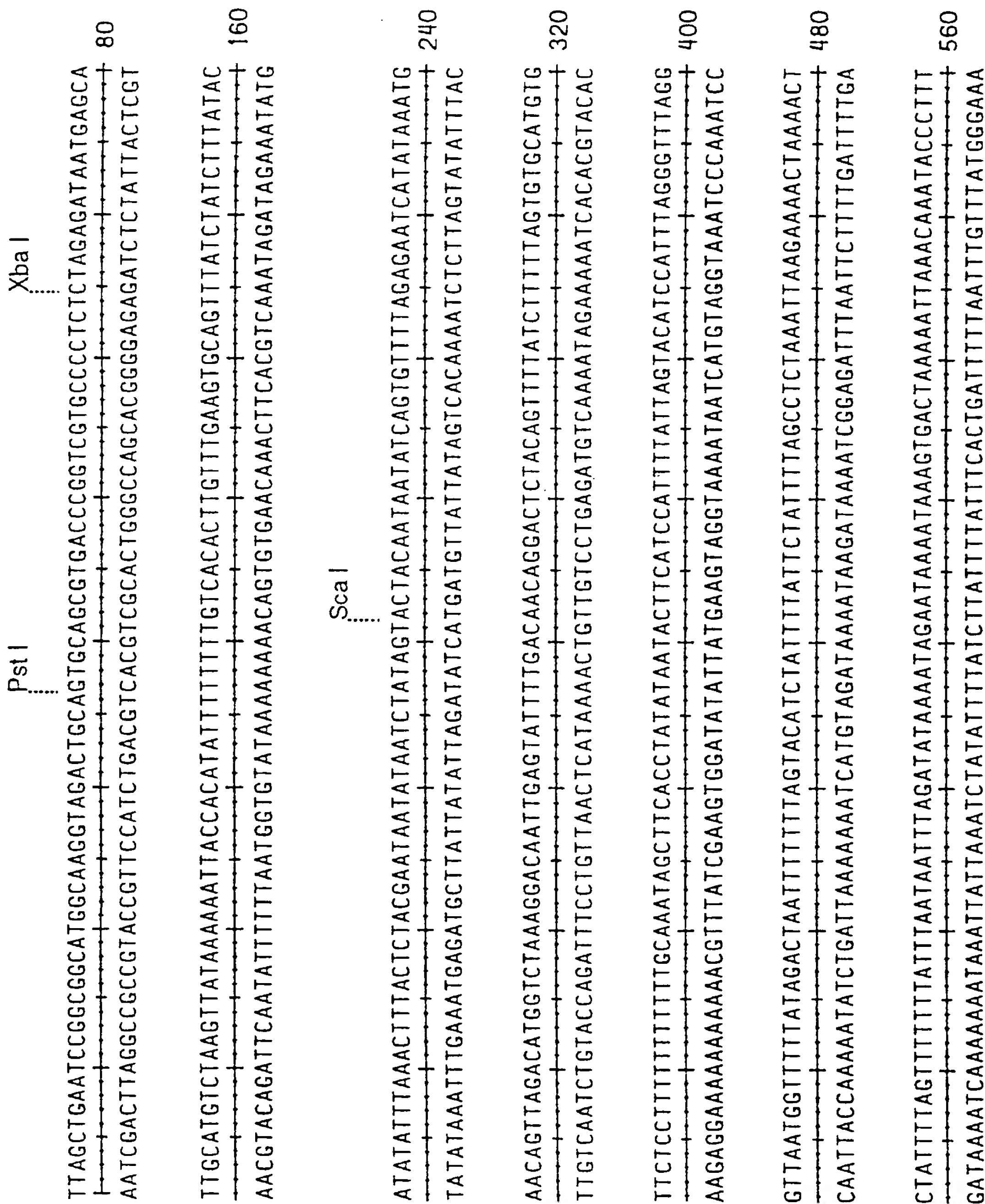


Fig. 29(ii).

Sal I  
.....  
AAGAAATTAAAAAACTAAGGAACATTTTCTTGTTTCGAGTAGATAATGCCAGCCTGTTAAACGCCGTCGACGCAGTC  
TTCCTTAAATTTTTTGATTCCCTTGTAAAAAGAACAAAAGCTCATCTATTACGGTCGGACAAATTTGCGGGCAGCTGCGGTCAG  
640

TAACGGACACCAACCAGCGAACCAGCAGCGTCGGCTCGGCGCCAAAGCGAGCAGCGCACGGCATCTCTGTCGCTGCCCTC  
ATTGCCCTGTGGTTGGTCGCTTGGTCGTCGCAGCGCAGCCCCGGTTCGCTTCGCTCGCCGTAGAGACACGCGACGGAG

Kpn I  
.....  
GGTACCGGACTTCGTCCGCTGTCGGCATCCAGAAATTGCGTGGCGGAGCGGCAGACGTGAGCCGGCACGGCAGGCGGCT  
CCATGGCC TGAAGCAGGCGACAGCCGTAGGTCTTTAACGCACCGCCTCGGCCGTCTGCAC TCGGCCGTGCCGTCCGCCGGA  
800

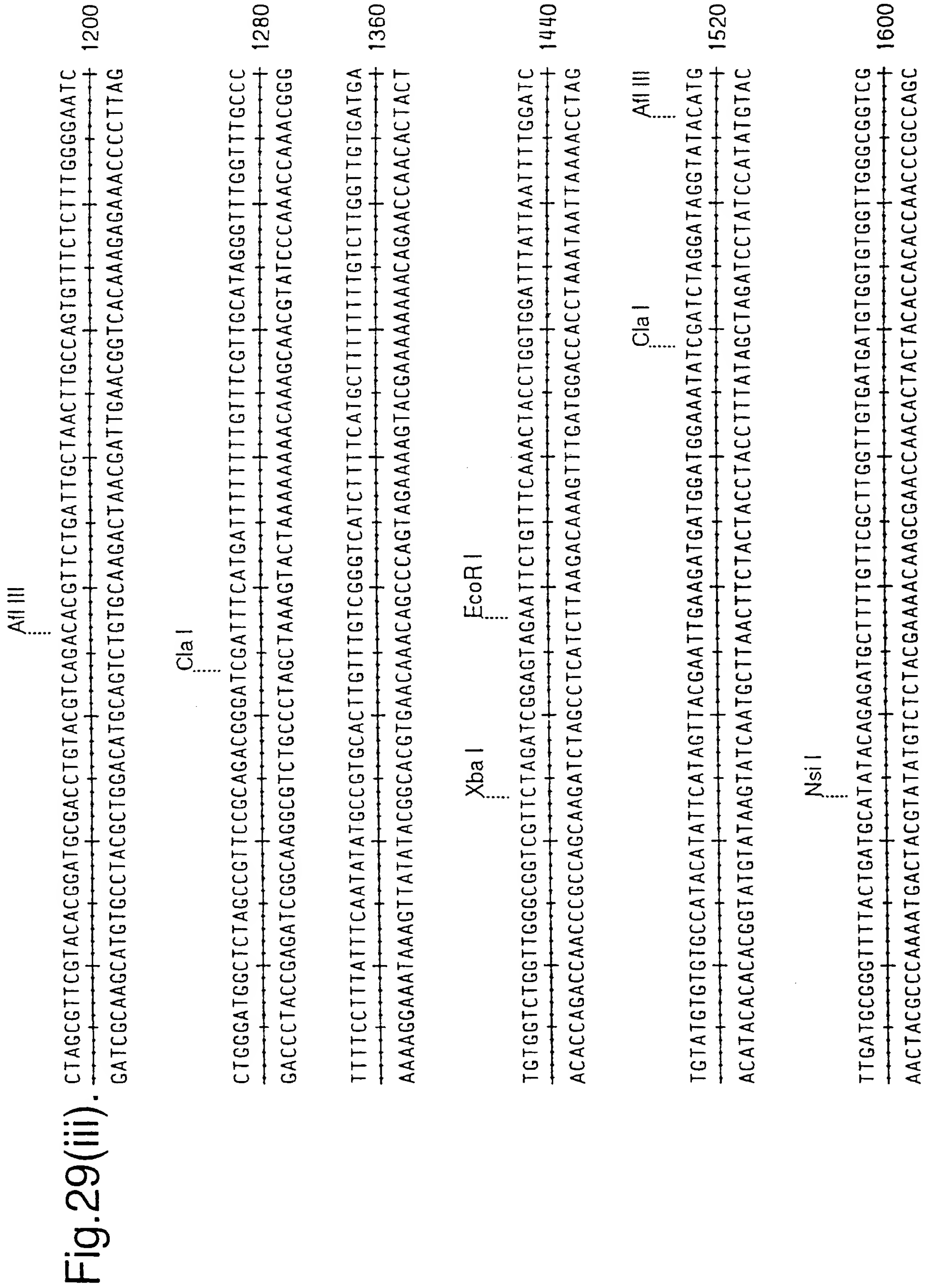
CCCTCTCTCACGGCACCGGCAAGCTACGGGGGATTCTTTCCACCGCTCCTTCGCTTTCCCTTCCCTCGCCCGCGTA  
GGAGGAGGAGAGTGCCTGGCCGTCGATGCCCCCTAAGGAAAGGTGCGGAGGAAGCGAAAGGGAAGGAGCGGGCGGCAT

ATAAATAGACACCCCTCCACACCCCTCTTCCCCCAACCCTCGTGTGTTCTGGAGCGCACACACACAACAGATCTCCCC  
TATTTATCTGTGGGGGAGGTGTGGGAGAAAGGGGTTCGAGGCACAACAAGCCCTCGCGTGTGTGTGTGTTGGTCTAGAGGGG

Xba I  
 .....  
 CAAATCCACCCGTCGGCACCCTCCGCTTCAAGGTACGCCGCTCGTCTCCCCCCCCCTCTCTACCTTCTCTAGATCGGCGT  
 GTTTAGGTGGGCAGCCGTGGAGGCGAAGTTCCATGCGGCGGAGCAGGAGGGGGGGGAGAGATGGAAGAGAGATCTAGCCCGCA  
 1040

Nco I  
Sly I .....  
Apa I .....  
TCCGGTCCAATGCTAGGGCCCCGGTAGTTCTACTTCTGTTCATGTTTTGTGTTAGATCCGTTGCTG  
AGGCCAGGTACCAATCCC GG GGC CATCAAGATGAAGACAAGTACAAACACAAATCTAGGCACAACTAGGCACCGAC

1120



Xba I

1680

Arl III

1760

Nisi

1840

1920

Psi

2000

2038

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Fig.30.

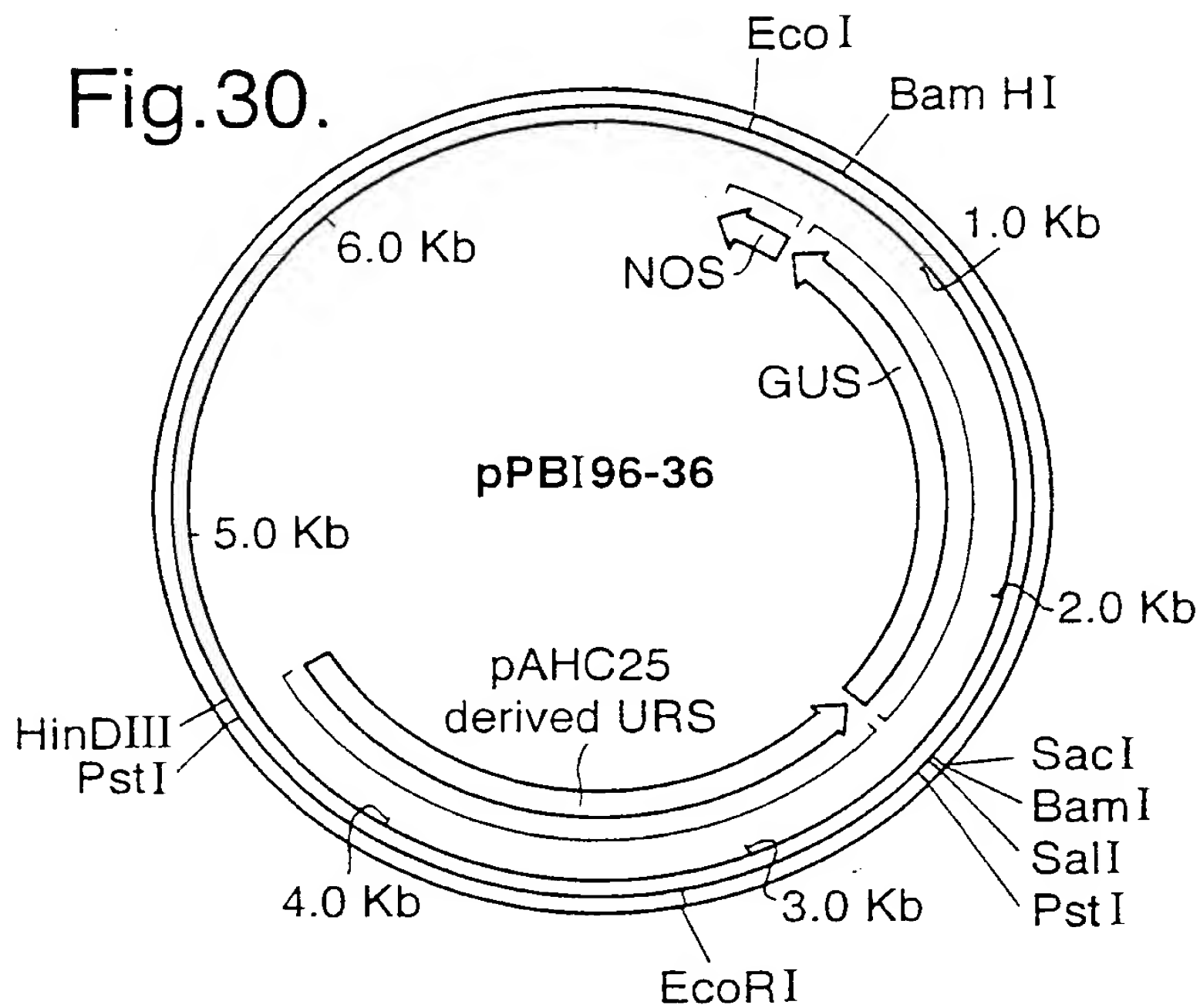


Fig.31.

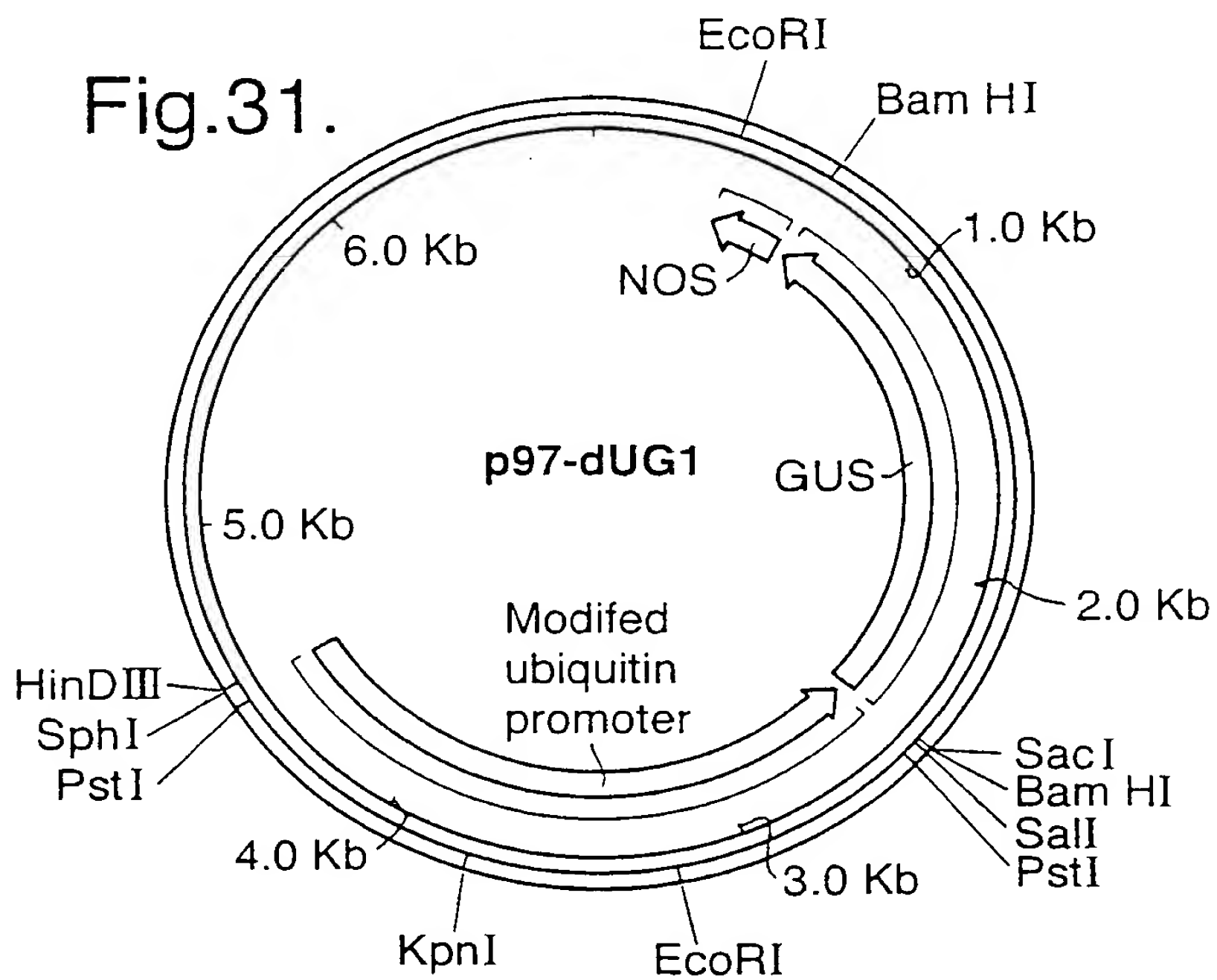




Fig.32.

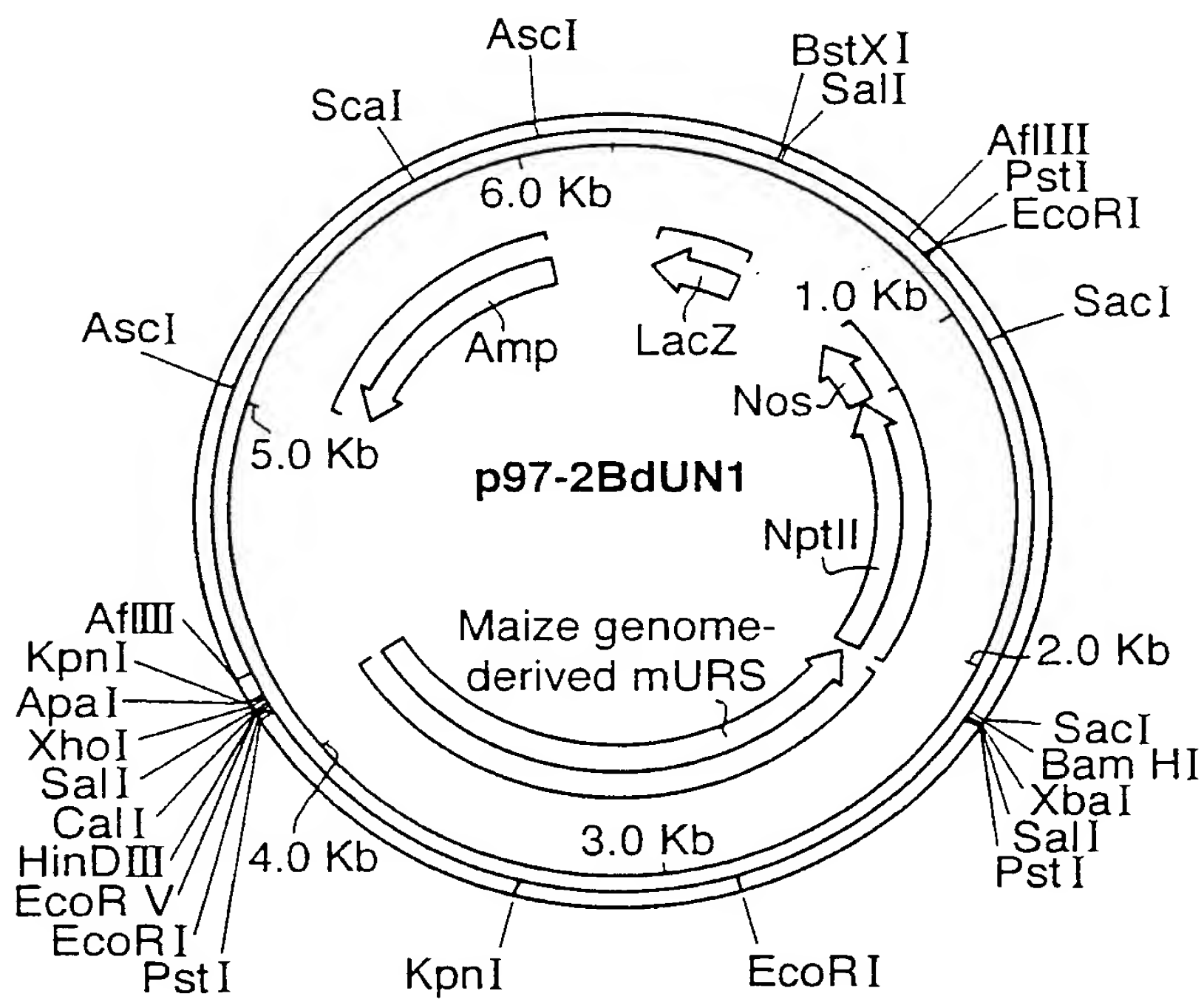


Fig.33.

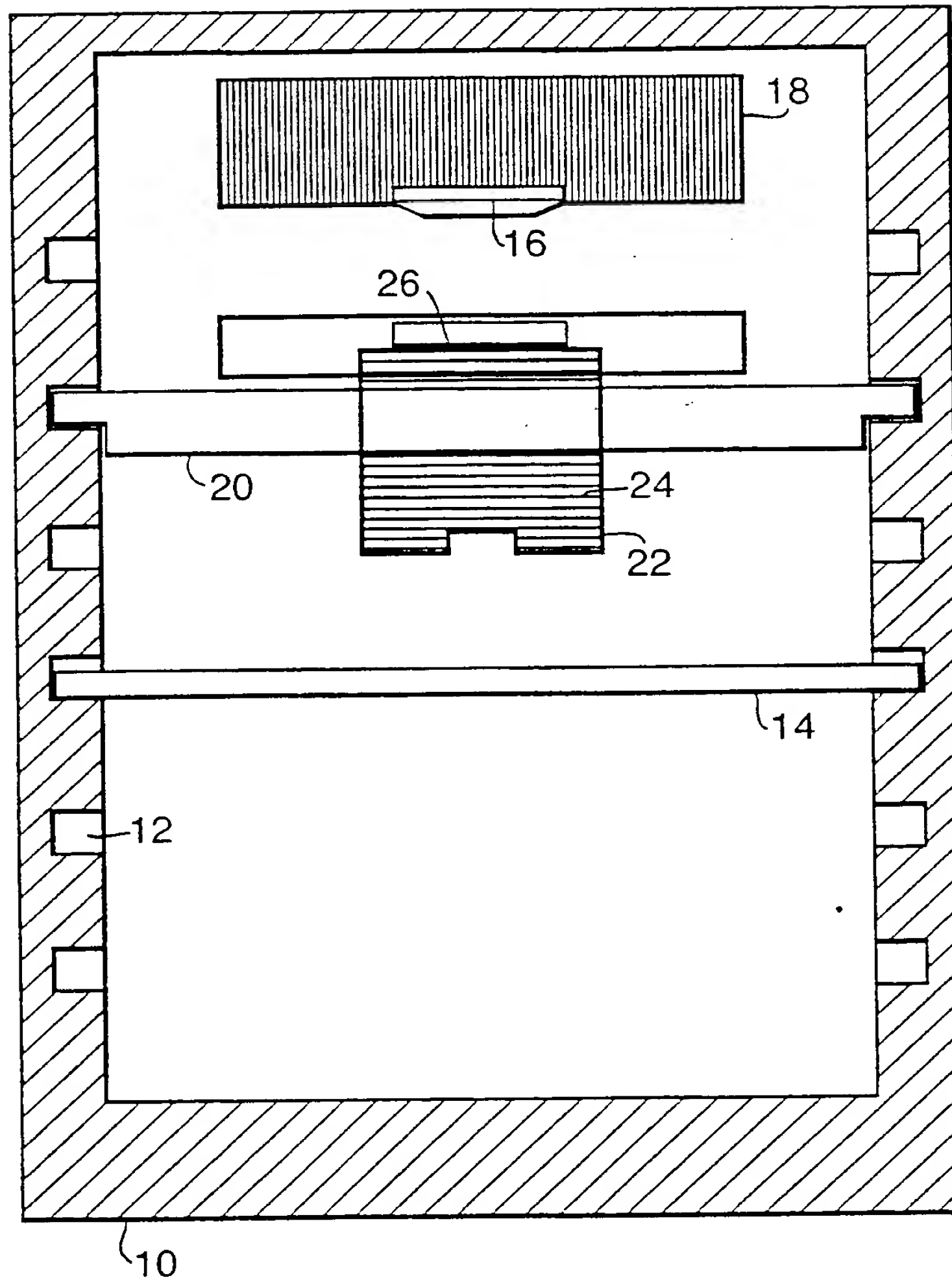
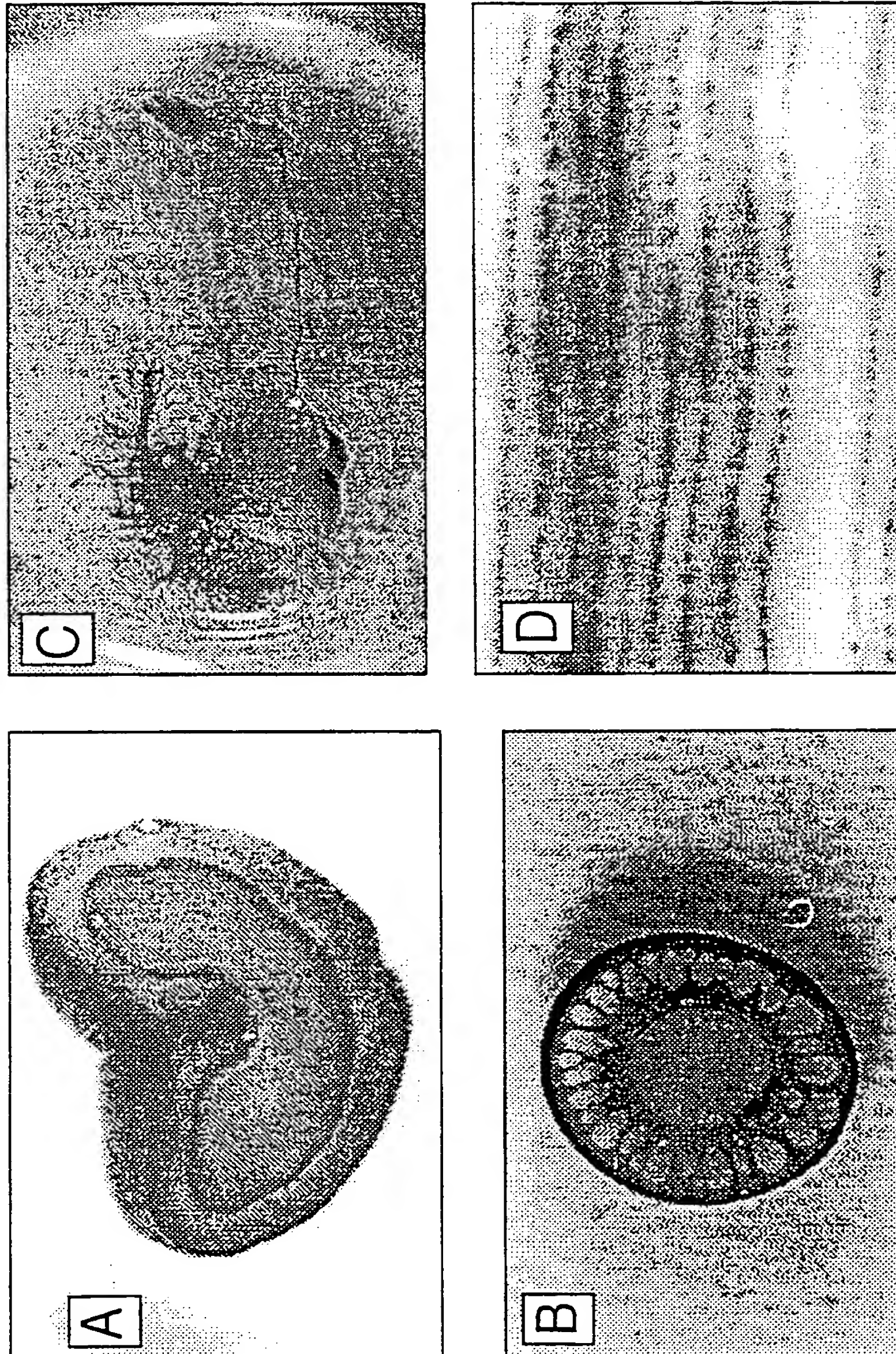
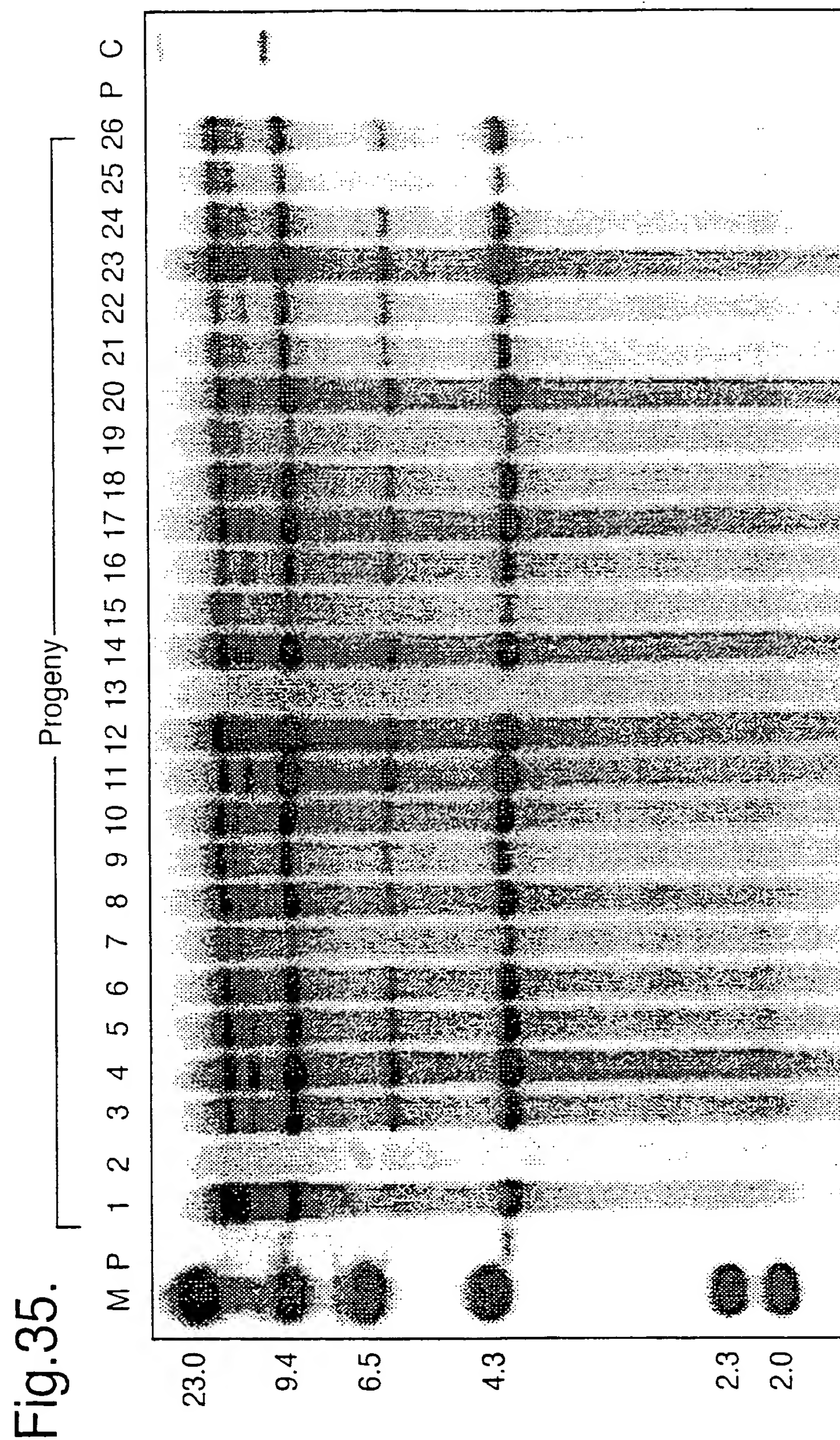


Fig.34.







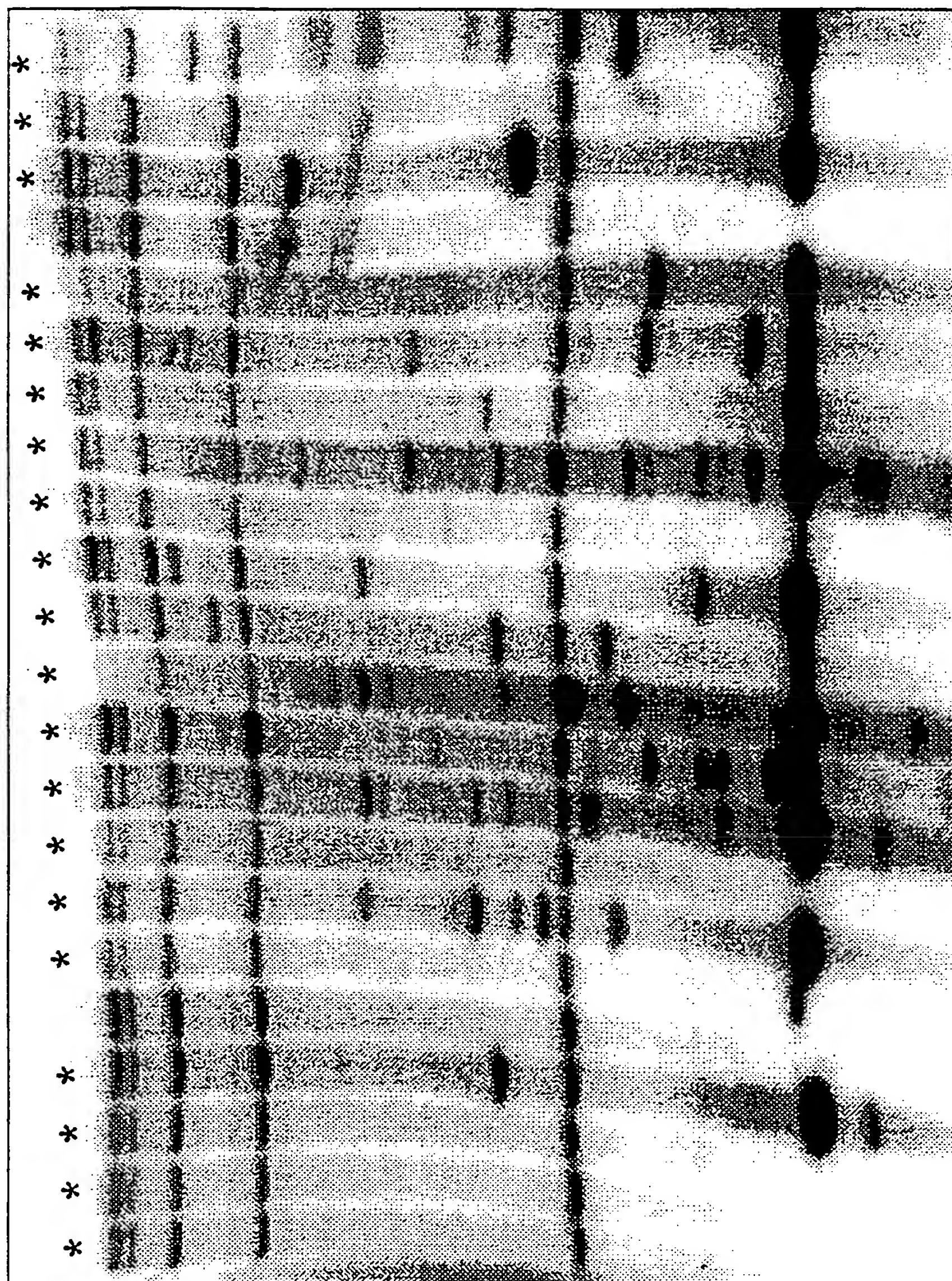
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Fig.36.





Fig.37.



Endogenous  
SBEII-1 bands

1kb SBEII-1  
plasmid band